

**INSERT PAGES for the
FY 2004 CONGRESSIONAL JUSTIFICATION (CJ)**

NOTE: Please insert the following section.

- **INTRODUCTION and OVERVIEW** should be inserted behind the **Introduction and Overview** tab.
- **PART Summary** should be inserted at the end of the **Special Analysis** section;

EPA's Mission

The mission of the Environmental Protection Agency (EPA) is to protect human health and safeguard the natural environment--air, water, and land--upon which life depends.

EPA's Goals

EPA currently has a series of ten strategic, long-term Goals in its Strategic Plan. In combination with EPA's core principles, these goals define the Agency's planning, budgeting, analysis, accountability, and implementation processes.

- **Clean Air:** The air in every American community will be safe and healthy to breathe. In particular, children, the elderly, and people with respiratory ailments will be protected from health risks posed by polluted air. Reducing air pollution will also protect the environment by restoring life in damaged ecosystems, reducing health risks to those who subsist on those ecosystems, and yield many other benefits.
- **Clean and Safe Water:** The American public will have drinking water that is clean and safe to drink. Effective protection of America's rivers, lakes, wetlands, aquifers, coastal and ocean waters will support wildlife as well as recreational, subsistence, and economic activities. Watersheds and their ecosystems will be restored and protected to provide wildlife habitat, reduce flooding, and enhance water quality thus improving public health.
- **Safe Food:** The food that the American public eats will be free from unsafe pesticide residues. Particular attention will be given to protecting subpopulations that may be more susceptible to adverse effects of pesticides or have higher dietary exposures to pesticide residues. These subpopulations include children and individuals with diets that include large amounts of noncommercial foods.
- **Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces, and Ecosystems:** Pollution prevention and risk management strategies aimed at eliminating, reducing, or minimizing emissions and contamination will result in cleaner and safer environments. EPA will safeguard ecosystems and promote the health of natural communities, integral components of this nation's quality of life.
- **Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response:** America's wastes will be stored, treated, and disposed of in ways that prevent harm to people and the natural environment. EPA will work to clean up previously polluted sites, restore them to levels appropriate for surrounding communities, and respond to and help prevent waste-related or industrial accidents.
- **Reduction of Global and Cross-Border Environmental Risks:** The United States will collaborate with other nations in successful, multilateral efforts to reduce significant risks to human health and ecosystems from climate change, stratospheric ozone depletion, and other hazards of international concern.

- **Quality Environmental Information:** At all levels, the public and decision makers will have access to quality information about environmental conditions and human health to make informed decisions and help assess community environmental health. The public will also have access to educational and information services and tools that provide for the reliable and secure exchange of quality environmental information.
- **Sound Science, Improved Understanding of Environmental Risk, and Greater Innovation to Address Environmental Problems:** EPA will develop and apply the best available science to address current and future environmental hazards and develop new approaches to improved environmental protection.
- **A Credible Deterrent to Pollution and Greater Compliance with the Law:** EPA will ensure full compliance with laws intended to protect human health and the environment.
- **Effective Management:** By managing for results, EPA will maintain the highest-quality standards for environmental leadership, effective internal management, and fiscal responsibility.

Organization of the Annual Performance Plan and Budget

The Agency's Commitment to Link Planning and Budgeting

The Agency's approach to annual planning under the Government Performance and Results Act (GPRA) is based on a full integration of strategic planning, annual planning, budgeting, and accountability. The organization of EPA's FY 2004 Annual Plan and Budget Request reflects the Agency's continuing commitment to link planning and budgeting in a coherent, integrated process. This integrated Annual Plan and Budget promotes fiscal accountability through a connection between resources and outcomes.

The Annual Plan and Budget presents the Agency's Goals and Objectives, and identifies the resource levels and activities associated with them. For each Objective, the Budget sets forth a set of annual performance goals and performance measures. These goals and measures represent intermediate, measurable levels of performance needed to achieve the Agency's Objectives contained in the Agency's five-year Strategic Plan, which was submitted to Congress in September 2000. The Agency will continue to work with partners and stakeholders to take into account our performance over the past years, and lay out new and innovative tools and approaches to advance our progress in environmental protection.

Annual Plan Components

All of the components of the Annual Plan are contained within the Budget. To fully explain the Agency's resource needs, the Budget contains a single set of externally reported annual performance goals and performance measures. The Agency submits a stand-alone Annual Plan to Congress to meet the legislative concern expressed in GPRA that "annual plans not be voluminous presentations describing performance for every activity. The annual plan and reports are to inform, not overwhelm the reader." (See the Special Analysis section of this document for the Annual Performance Plan components.)

Annual Performance Plan and Congressional Justification Organization:

Resource Tables

The resource tables provide a broad overview of the resources that the Agency is requesting for FY 2004 by Goal, Objective, and Appropriation.

Goal Chapters include:

- **Background and Context:** Sets the broad context for the Goal and briefly explains why the Goal is of National importance.
- **Resource Summary:** Provides a broad overview of the resources for FY 2004 by Goal, Objective, and Appropriation. (The dollar amounts in these and other tables may not add due to independent rounding.)

- **Means and Strategy:** Broadly describes the Agency's approach to achieving the strategic Goal.
- **Highlights:** Provides an overview of major activities and programs that contribute to achieving the Goal.
- **Strategic Objectives and Annual Performance Goals:** Includes all the Objectives under each Goal, and links those Objectives to FY 2004 Annual Performance Goals.
- **External Factors:** Addresses the external-Agency factors, such as participation in environmental programs by state and local governments and other stakeholders, or economic and technological factors that may enhance or impede progress toward achieving environmental goals.

Objective Sections Include:

- **Objective Statement:** Objectives are a critical part of the planning and budgeting process, and they respond to the GPRA requirement to plan achievable Objectives. Each Objective supports the attainment of a specific Goal.
- **Resource Summary:** Reports resources by Appropriation account for the Objective.
- **Key Programs:** Reports resources for Key Programs, which are Agency programs contributing to the Objective. Resources listed under an Objective may not represent the total Key Program resources, as a Key Program may be involved in more than one Objective.
- **FY 2004 Request:** These narratives describe specific Agency functions and the operational processes, as well as the human, capital and technological resources required to meet the performance goals.
- **FY 2004 Change from FY 2003:** Describes major changes, by appropriation account, in programmatic funding within the Objective.
- **Annual Performance Goals:** Annual Performance Goals are central to measuring progress toward achieving Objectives. They are quantifiable standards, values, or rates against which actual achievement can be compared. They help establish the connection between longer-term objectives and the day-to-day activities in the Agency's programs and will be used by managers to determine how well a program or activity contributes to accomplishing objectives. In the Objective sections of this Annual Plan and Budget, performance information is provided for three years: FY 2002 - FY 2004. This Annual Plan and Budget also contains a section providing performance information for six years, FY 1999 - FY 2004, to fulfill the Office of Management and Budget requirement to show six years of performance information.
- **Performance Measures:** Performance Measures provide the means for determining the extent to which annual goals and multi-year objectives are being achieved and whether

efficiency is being improved. As such, they are essential to program evaluations that help to guide the Agency's strategic planning. As with the Annual Performance Goals, this Annual Performance Plan and Congressional Justification include Performance Measure data for three years.

- **Verification and Validation of Performance Measures:** This section describes how Performance Measure data are verified and validated. It includes a description of the source of performance measure data, as well as procedures for quality assurance. It may also include information on the methodology of data collection and review.
- **Coordination with Other Agencies:** This section describes partnerships with other Federal and state agencies, which are crucial to the success of EPA's environmental programs.
- **Statutory Authority:** This section cites the public law that gives the Agency legal authority to carry out the Objective.

Annual Performance Goals and Measures

This section provides performance information for six years: Actual accomplishments for FY 1999 through FY 2001, the estimated performance based on the FY 2002 enacted budget, and performance estimates based on the budget requests for FY 2003 and FY 2004.

Special Analyses

This final section of the Annual Performance Plan and Congressional Justification includes:

- **Major Management Issues:** Describes the nature of EPA's most pressing management problems, actions taken, and progress to date in addressing the major management challenges faced by the Agency.
- **Key Programs:** Reports totals for Agency Key Programs, across Goals and Objectives. As noted above, Key Program resource data represents 100% of the Agency's budget.
- **Annual Performance Plan Components:** Indicates the *Annual Plan* components of the Annual Performance Plan and Congressional Justification.
- **User Fees:** Describes the Agency's user fee programs. User fees are currently authorized as the proposed collection of fees charged to Agency customers, which cover the cost of selected permitting, testing, registration, and approval actions.
- **Working Capital Fund:** Provides information on the Working Capital Fund, a revolving fund authorized by law to finance a cycle of operations, where the costs of goods and services provided are charged to the Agency users on a fee-for-service basis.

- **State and Tribal Assistance Grants:** Provides tables on STAG components, categorical grants, and statutory authorities for the STAG appropriation.

Relationship between the Annual Performance Plan and the Strategic Plan

The Annual Performance Plan makes no substantive changes (not previously noted) to the Agency's Strategic Plan, which was submitted to Congress in September 2000.

Relationship between Budgeted Resources and Annual Performance Goals and Measures

Annual Performance Goals are related to the resource levels contained in each Objective. Annual Performance Goals for FY 2004 in this Annual Performance Plan are based upon the resource levels in the Agency's FY 2004 budget request levels. However, resources may contribute not only to the budget year's Annual Performance Goals, but also to the accomplishment of Goals in future years. For example, a performance goal to complete a number of Superfund site cleanups, or develop research methods and models, generally requires a period longer than one year. Thus, FY 2004 activities will contribute to completion of work in FY 2004 or beyond. Likewise, some FY 2004 Annual Performance Goals are achievable only with funding provided in prior years.

Given this multi-year characteristic of some of the resources requested, it is not always possible to establish direct linkages between the budget requested for a particular year and the achievement of all performance goals for that year. Nevertheless, when developing regulatory impact analyses or justifications for programs and legislation, EPA regularly makes estimates that link activities by EPA, states, tribes, regulated communities, and citizens to outcomes by some future date. In doing so, EPA estimates not only its costs but also society's costs (of which EPA's is a subset) to achieve health and environmental benefits of clean air, clean water, or better handling and disposal of hazardous chemicals. The Agency is able to leverage its resources to achieve such benefits as avoiding excess cancer risk, premature mortalities, asthma-related hospital visits, mitigation of crop losses, and loss of visibility in our National Parks.

Annual Plan and Budget Overview

The EPA's FY 2004 Annual Plan and Budget requests \$7.6 billion in discretionary budget authority and 17,850 Full Time Equivalents (FTE). This budget request supports the Agency's core programs and implementation of critical components of the President's Management Agenda. Additionally, this request emphasizes the importance of adequate resources and vision necessary to reach our nation's environmental goals. Resources also support the Agency's efforts to work with its partners toward cleaner air, purer water, and better-protected land, as well as providing for EPA's role in safeguarding the American people from terrorist acts. The request also supports the Administration's commitment to setting high environmental protection standards, while focusing on results and performance, and achieving goals outlined in the President's Management Agenda.

Implementation of the President's Management Agenda is a major focus of the Agency's FY 2004 budget request. EPA has identified major efforts to accelerate its progress in "getting to green" in all five initiatives: Budget and Performance Integration, Improved Financial Performance, Expanding E-Government, Competitive Sourcing, and Strategic Management of Human Capital. The Agency's plans are described throughout this justification. The Office of Management and Budget (OMB) rated progress "green" in all five areas.

Strengthening Base Environmental Programs

This Annual Plan and Budget submission demonstrates EPA's commitment to our principal objectives—safeguarding and restoring America's air, water, and land resources—by strengthening and refining our base environmental programs. This budget supports the President's Clear Skies Initiative, an aggressive plan to cut power plant emissions by 70 percent. Such emissions cuts will be an essential component of improving air quality and thus human health. Additionally, EPA's budget request places a strong emphasis on core water programs to improve our water management framework, program implementation, and information sharing. To help states and tribes fill critical gaps in fulfillment of their Clean Water Act responsibilities, this budget increases funding to states, tribes, and interstate agencies. EPA's plan also requests a \$150 million increase for Superfund remedial cleanup costs.

Fostering Stronger Partnerships

The Agency is committed to building and enhancing effective partnerships. To do so, this budget provides \$210.7 million, \$10 million above last year's funding, for Brownfields. As one of the Administration's top environmental priorities and a key to restoring contaminated sites to productive use, the Brownfields program will draw on these additional resources to enhance state and Tribal response programs. By protecting land and revitalizing contaminated sites throughout the US, EPA continues to expand efforts to foster healthy and economically sustainable communities and attract new investments to rejuvenated areas. This budget also requests increased funds over the FY 2003 President's Request for the Federal enforcement workforce. The Agency will maximize compliance and achieve environmental results through targeted inspections and enforcement, by responding to public and other complaints, and enhancing field presence to address environmental law violators. In FY 2004 EPA will conduct

a study to assess environmental service delivery systems, including EPA's National Environmental Performance Partnership System.

Enhancing Strong Science

Sound science is a fundamental component of EPA's work. The Agency has long relied upon science and technology to help discern and evaluate threats to human health and the natural environment. Much of our decision-making, policy, and regulatory successes stem from reliance on quality scientific research aimed at achieving EPA's environmental goals. This budget increases funding for modernization and expansion of the Integrated Risk Information System (IRIS)--a database of human health effects that result from exposure to various environmental substances. Our proposal also allocates additional resources to research America's sensitive populations, including children and the elderly. In addition, EPA is requesting resources for the newly established Science Advisor. The Science Advisor will be responsible for ensuring the availability and use of the best science to support Agency policies and decisions, as well as advise EPA's administrator on decisions. The Agency is also taking a number of steps to attract and maintain a high quality, diverse scientific workforce to improve the use of science in EPA's regional offices.

Cleaner Air

The Clear Skies initiative draws on EPA's experience to modernize the Clean Air Act. Using a market-based approach, the Clear Skies Initiative will dramatically cut power plants' emissions of three of the most significant air pollutants--SO₂, nitrogen oxides (NO_x), and mercury. Reductions in SO₂ and NO_x emissions will also reduce airborne PM_{2.5}. EPA's approach builds upon the success of the acid rain cap-and-trade program created by Congress in 1990. The Clear Skies initiative will achieve substantially greater reductions in air pollution from power plants more quickly and with more certainty than the existing Clean Air Act. The initiative requires mandatory cuts of SO₂, NO_x, and mercury (Hg) by an average of 70% from today's levels, and ensures that these levels are achieved and sustained through caps on emissions. Despite these reductions, some states will need to implement further measures to meet National Ambient Air Quality Standards (NAAQS). To help states and localities develop cost-effective strategies, EPA also will need to provide assistance to states to implement reductions.

The number of people living in areas with monitored ambient ozone concentrations below the NAAQS for the one-hour ozone standard will increase by 1% (relative to 2003) for a cumulative total of 20% (relative to 1992).

In FY 2004, EPA will assist states, tribes and local governments in devising additional stationary and mobile source strategies to reduce ozone, particulate matter, and other pollutants.

The Agency will develop strategies and rules to help states and tribes reduce emissions and exposure to hazardous air pollutants, particularly in urban areas, and reduce harmful

Air toxics emissions nationwide from stationary and mobile sources combined will be reduced by an additional 2% of the updated 1993 baseline of 6.0 million tons for a cumulative reduction of 37%.

deposition in water bodies. A key to achieving the Clean Air Goal is \$235.6 million included in this budget for air grants that support states and tribes.

EPA's air research program will continue to provide a strong scientific basis for and policy and regulatory decisions and exploring emergency problem areas.

Addressing Climate Change

This budget request includes \$130.0 million to meet the Agency's climate change objectives by working with business and other sectors to deliver multiple benefits – from cleaner air to lower energy bills – while improving overall scientific understanding of climate change and its potential consequences. The core of EPA's climate change efforts are government/industry partnership programs designed to capitalize on the tremendous opportunities available to consumers, businesses, and organizations to make sound investments in efficient equipment and practices. These programs help remove barriers in the marketplace, resulting in faster deployment of technology into the residential, commercial, transportation, and industrial sectors of the economy. EPA's Global Change Research Program supports one of six Administration FY 2004 Interagency Research and Development Priorities - Climate Change Science and Technology. EPA will continue research in this area in FY 2004 to address Climate Change Science Program (CCSP) needs.

Greenhouse gas emissions will be reduced from projected levels by approximately 81 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.

Purer Water

Since enactment of the Clean Water Act (CWA) and Safe Drinking Water Act (SDWA) three decades ago, government, citizens, and the private sector have worked together to make dramatic improvements in the quality of surface waters and drinking water supplies. Despite improvements in water quality nationwide, serious water pollution and drinking water problems, including nonpoint source pollution, still exist.

- **Strengthening Water Core Programs.** In FY 2004 the Agency will place a strong emphasis on core water programs--monitoring and assessment, standard setting, watershed planning, and implementation (i.e., NPDES and drinking water). Through investments in core water programs, EPA hopes to remedy significant environmental problems and boost environmental performance by:

- Working with the states to enhance their monitoring and assessment programs, with an emphasis on a

Water quality will improve on a watershed basis such that 625 of the nation's 2,262 watersheds will have greater than 80 percent of assessed waters meeting all water quality standards, up from 500 watersheds in 1998.

- probabilistic, science-based approach in assessing water quality, increasing the number of waters directly measured, and unifying Federal, state, and local monitoring efforts.
- Assisting states and tribes in ensuring that water quality standards are effective and appropriate for use in developing Total Maximum Daily Loads (TMDLs).

- Increasing the pace of TMDL development and working with states to assure implementation of already approved TMDLs, including targeting CWA Section 319 nonpoint source funding.

92 percent of the population served by the community water systems will receive drinking water meeting all health-based standards in effect as of 1994, up from 83 percent in 1994. 85 percent of the population served by community water systems will receive drinking water meeting health-based standards promulgated in or after 1998.
- Assisting states in ensuring that facilities required to have permits are covered by current and effective permits that include all conditions needed to ensure water quality protection.
- Strengthening the drinking water implementation program to maintain effective state and Tribal programs and to achieve the enhanced level of public health protection established in 1998 and later drinking water rules.
- Enhancing regulation of vessel discharges and pollution, developing ballast water standards for aquatic nuisance species, and bolstering its ocean dumping responsibilities regarding site evaluation, designation, monitoring, permit review, and concurrence.
- Protecting Wetlands. In 2001, the Supreme Court determined that some isolated waters and wetlands are not regulated under the Clean Water Act. Millions of acres of waters are no longer protected under Clean Water Act Section 404. EPA is proposing to provide an increase of \$5 million in grants to states and tribes to help them protect these waters as part of comprehensive programs that will achieve no net loss of wetlands.
- Great Lakes Legacy Act. In support of the Great Lakes Legacy Act, EPA is requesting \$15 million in funding for contaminated sediment cleanup activities. In 2004, the Agency plans to begin cleanup on two to three new sites that will lead to the remediation of over 100,000 cubic yards of contaminated sediments. Some of this funding will also be used for assessment and analysis, resulting in additional cleanups.
- Helping States Address Nonpoint Source Pollution. The new Farm Bill provides EPA and the states an opportunity to accelerate national efforts to control nonpoint source pollution. EPA and state water quality agencies will work closely and cooperatively with USDA, conservation districts, and others to combine our strengths. Using CWA Section 319 dollars, states will focus more of their efforts on providing the monitoring and watershed-planning support needed by the agricultural community to target their work most effectively on the highest-priority water quality needs. In addition, states will also increase their focus upon nonpoint source activities that are not funded under the Farm Bill (e.g., urban runoff, forestry, abandoned mines, and a variety of stream and stream bank restoration activities).

- Extending the Federal Commitment to the Clean Water and Drinking Water State Revolving Funds (SRFs). The President's Budget proposes to fund the Clean Water SRF at \$850 million through 2011 and increase the long-term revolving level by \$800 million to \$2.8 billion, a 40 percent increase over the previous goal. This extended funding of \$4.4 billion is projected to close the \$21 billion gap between current capital funding levels and future water infrastructure capital needs estimated by EPA. EPA also proposes to fund the Drinking Water SRF at \$850 million through 2018 so it can revolve at \$1.2 billion per year, an increase of 140% over the previous goal of \$500 million.
- Safe Drinking Water in Puerto Rico. Less than 20% of the people in Puerto Rico receive drinking water that meets all health-based standards. As a first step toward improved public health protection, the Agency requests \$8 million to design necessary infrastructure improvements to Metropolitan, Puerto Rico. When these infrastructure improvements are completed, EPA estimates that about 1.4 million people will enjoy safer, cleaner drinking water.
- Drinking Water Research. To strengthen our ability to characterize and manage risks to human health posed by exposure to waterborne pathogens and chemicals, the Agency has established an integrated, multi-disciplinary research program in the areas of exposure, health effects, risk assessment, and risk management. The FY 2004 budget request directly supports SDWA priorities, including: 1) research on sensitive subpopulations, adverse reproductive outcomes and other potential health effects of drinking water contaminants; 2) studies on disinfection by-products (DBPs), arsenic, complex mixtures, and the occurrence of waterborne disease in the U.S.; and 3) development of methods to improve water treatment and maintain water quality in the distribution system.
- Water Quality Research. The water quality research program will demonstrate integrated and stakeholder driven approaches to achieving water quality goals, as well as: 1) focus on the development of watershed diagnostic methods; 2) focus on understanding the importance of critical habitats; 3) focus on the impacts of habitat alteration on aquatic communities; and 4) support the development of ecological criteria, providing the scientific foundation to support Total Maximum Daily Loads (TMDLs).

Better Protected Land

Cleaning Up Toxic Waste

Superfund at Work. This budget continues a commitment to clean up toxic waste sites with \$1.39 billion for Superfund. This budget request includes \$150 million over the FY 2003 President's Budget to address an additional 10-15 construction projects at Superfund sites across the nation. The Agency will also work to maximize the participation of responsible parties in site cleanups while promoting fairness in the enforcement process. EPA will continue the progress we have made in cleaning up toxic waste sites while protecting public health and returning land to productive use. As of December 29, 2002, EPA completed all final cleanup plans at over 1,000 Superfund National Priority List (NPL) sites, undertaken over 7,300 removals at hazardous waste sites to immediately reduce human health and environmental threats, assessed over 44,400 sites, and removed more than 33,100 sites from the national toxic

waste site list to help promote the economic redevelopment of these properties. The waste research program continues to support the Agency's objective of reducing or controlling potential risks to human health and the environment at contaminated waste sites by accelerating scientifically-defensible and cost-effective decisions for cleanup at complex sites, mining sites, marine spills, and Brownfields in accordance with CERCLA.

- Revitalizing Local Economies and Creating Jobs Through Brownfields Cleanup and Redevelopment. The FY 2004 budget request includes \$210.7 million for the Brownfields program. The \$10 million increase in state grants will support the redevelopment and revitalization of Brownfields communities by providing funding for additional assessments at hazardous waste and petroleum-contaminated properties and for voluntary state cleanup programs. The Brownfields program will continue to promote local cleanup and redevelopment of industrial sites, returning abandoned land to productive use and bringing jobs to blighted areas.

Strong Science

The FY 2004 budget supports EPA's efforts to further strengthen the role of science in decision-making by using sound scientific information and analysis to help direct policy and establish priorities. Using the

The Agency will verify 35 commercial-ready air, water, greenhouse gas, and monitoring technologies, and provide this information to States, technology purchasers, and the public.

Administration's Research and Development Criteria (relevance, quality, and performance), the Agency will achieve maximum environmental and health protections by employing the highest quality scientific methods, models, tools, and approaches. This budget request includes \$607 million to develop and apply strong science to address both current and future environmental challenges. The budget request supports a balanced research and development program designed to address Administration and Agency priorities, and meet the challenges of the Clean Air Act (CAA), the Safe Drinking Water Act (SDWA), the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Food Quality Protection Act (FQPA), and other environmental statutes. Important new or increased research efforts to reinforce environmental decision-making include computational toxicology (including genomics and bioinformatics), childhood cancer and asthma research, and environmental indicators research. All of these will allow EPA to measure progress in achieving cleaner air, safer water, and better protected land resources by assessing actual impacts on human health and ecological quality and will provide the foundation for the Agency's State of the Environment Report.

Broad-Based and Multi-Media Approaches

Agency-wide Information Technology Advances

The FY 2004 Budget reexamines our information technology challenges in order to support E-Government, an element of the President's Management Agenda.

Performance across the Agency will benefit from building and maintaining an Agency-wide infrastructure in terms of support to:

- Sound science and environmental decision-making;
- Web services addressing stakeholder and e-gov priorities; and,
- Consistent desktop access.

Environmental information plays a particularly significant role in EPA due to the Agency's reliance on scientific and analytical data and its need for close collaboration with external partners. EPA strives to provide the right information, at the right time, in the right format, to the right people. The Agency is adapting to the explosion of emerging technologies and the information management revolution that are enabling organizations to become more productive, more effective and timely in decision making, and service oriented. The challenge is to provide secure, reliable, and timely access to data and tools for internal and external stakeholders at the lowest possible cost.

In FY 2004, EPA will continue its development of the National Environmental Exchange Network. The Exchange Network is an electronic method of sharing environmental data using secure points of exchange, or

Forty-six States will use CDX as the means by which they routinely exchange environmental data with two or more EPA media programs or regions.

“Nodes.” The Primary components of the Exchange Network are the National Environmental Information Exchange Network Grant Program and the Central Data Exchange (CDX). The grant program assists states and tribes in evaluating their readiness to participate in the Exchange Network, enhances their efforts to complete necessary changes to their information management systems to facilitate Exchange Network participation, and supports state information integration efforts. The grant program also will provide training and other technical assistance programs to assist states and tribes in developing and implementing the Exchange Network.

The CDX is the focal point for securely receiving, translating, and forwarding data to EPA's data systems--the electronic reporting gateway to the Agency's information network. The CDX satisfies the Government Paperwork Elimination Act mandates by providing the infrastructure necessary to implement electronic signature and electronic filing of mandated EPA reports. In FY 2004, the CDX infrastructure, a key component of the Exchange Network, will service 46 states and at least 2,000 private sector and local government entities. These facilities will use it to provide data to EPA electronically. By widely implementing an electronic reporting infrastructure, the CDX will reduce reliance on less efficient paper-based processes, thereby improving data quality, reducing reporting burden, and simplifying the reporting process.

In FY 2004 the Agency will continue the development of its Environmental Indicators Initiative (EII) in order to establish a set of performance indicators that measure environmental results. Environmental indicators are an important tool for simplifying, analyzing, and communicating information about environmental conditions and human health. EPA is in the process of identifying environmental indicators that will be used to produce a draft State of the Environment Report in FY 2003. EPA is also reviewing these indicators to identify gaps and set long-term priorities for the EII. These indicators are designed to measure the impact of human activities on the environment and associated health effects on communities and ecosystems.

Working with States for Effective, Sensible Enforcement

Many of the environmental improvements in this country during the past 30 years can be attributed to a strong set of environmental laws and EPA's efforts to ensure compliance with those laws through enforcement, compliance monitoring, compliance assistance, and compliance incentives. The combination of these tools, in cooperation with our regulatory partners, provides

a broad scope of actions designed to protect public health and the environment. State, Tribal and local governments bear much of the responsibility for ensuring compliance, and EPA works in partnership with them and other Federal agencies to promote environmental protection. The FY 2004 request includes an increase of 100 workyears over the FY 2003 President's Request to implement enforcement for states without delegated programs, for non-delegable programs such as Superfund, or for compliance assistance activities.

A strong enforcement program identifies and reduces noncompliance problems, assists the regulated community in understanding environmental laws and regulations, responds to complaints from the public, strives to secure a level economic playing field for law-abiding companies, and deters future violations.

The FY 2004 request will continue to support the regulated community's compliance with environmental requirements through voluntary compliance incentives and assistance programs. The Agency will provide information and technical assistance to the regulated community through the compliance assistance program to increase its understanding of all statutory or regulatory environmental requirements, thereby reducing risk to human health and the environment and gaining measurable improvements in compliance. The program will also continue to develop strategies and compliance assistance tools that will support initiatives targeted toward improving compliance in specific industrial and commercial sectors or with certain regulatory requirements.

Increase the regulated community's compliance with environmental requirements through their expanded use of compliance assistance. The Agency will continue to support small business compliance assistance centers and develop compliance assistance tools such as sector notebooks and compliance guides.

Ensuring Safe Food

The FY 2004 request includes \$151.6 million to meet implementation challenges of the Food Quality Protection Act (FQPA) of 1996 so that all Americans will continue to enjoy one of the safest and most affordable food supplies in the world. The Agency's implementation of FQPA focuses on new science-driven policies for pesticides review, seeks to encourage the development of reduced risk pesticides to provide an alternative to the older versions on the market, and to develop and deliver information on alternative pesticides/techniques and best pest control practices to pesticide users. The Agency is also working to help farmers' transition--without disrupting production--to safer substitutes and alternative farming practices. Reassessing existing tolerances ensures food safety, especially for infants and children, and ensures that all pesticides registered for use meet current health standards. This budget request also supports FQPA research. That research seeks to reduce uncertainties in risk assessment by developing tools to reduce reliance on default assumptions and support the development of new assessment methodologies.

By the end of 2004, EPA will reassess a cumulative 78% of the 9,721 pesticide tolerances required to be reassessed over ten years.

Homeland Security

The Environmental Protection Agency's FY 2004 Annual Plan and Budget requests \$123 million and 142 FTE to support the Agency's Homeland Security responsibilities in accordance with the Public Health Security and Bioterrorism Preparedness and Response Act of 2002, the National Strategy for Homeland Security, and Presidential Directives (PDD) 39, 62, 63. This request allows the Agency to continue providing leadership for the protection of the nation's critical water infrastructure while upgrading and improving our emergency response capabilities. In addition, EPA will conduct research and provide guidance and technical support for Federal, state, local governments, and other institutions in the areas of building decontamination, water security, and rapid risk assessment.

A Commitment to Reform and Results

The Agency is committed to achieving the Administration's management reform priorities for a government that is results-oriented, citizen-centered, and market-based. This Annual Plan and Budget represents a strong commitment to reduce regulatory burdens and streamline Agency operations, so that the Agency's focus is on positive and measurable environmental results while working more effectively with our partners and stakeholders. Since FY 1999, EPA has undertaken significant management reform by restructuring its budget to match the strategic goals and objectives of its strategic plan under the Government Performance and Results Act (GPRA). Since then, EPA has worked consistently to improve its ability to manage for results. The Agency's current management reform agenda fully supports the goals of the President's Management Agenda, and EPA has made demonstrable progress in carrying out the five government-wide initiatives as reflected in Executive Branch Scorecard updates and in delivering environmental results to our ultimate customer--the American people.

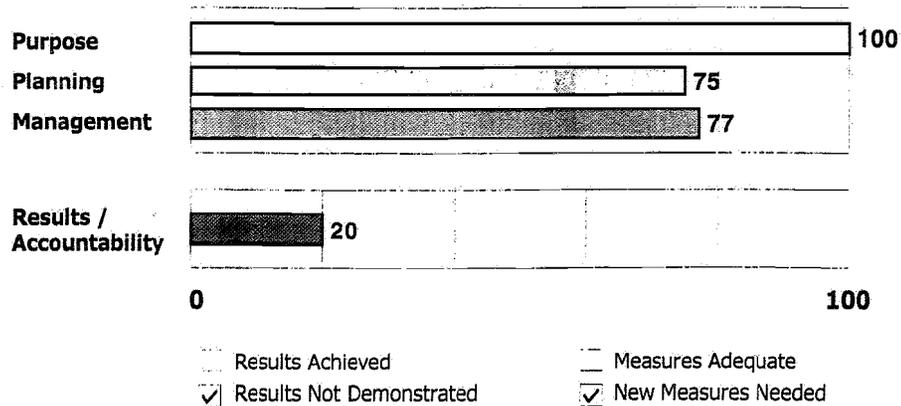
PROGRAM ASSESSMENT RATING TOOL (PART) SCHEDULE FOR FY 2005

- RCRA Corrective Action and State Grants
- Clean Water and Drinking Water Assistance Grants for Mexican Border/Alaskan Native Villages/Puerto Rico, CWSRF Indian Set Aside Program
- Water Research
- Climate Change Programs
- Indoor Air
- PM Implementation and Research
- Brownfields
- Pollution Prevention Research
- High Production Volume Chemicals Challenge Program

Program: Air Toxics

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

Long-term Measure: Percent of U.S. population free from unacceptable risks of cancer and other significant health problems from air toxic emissions	2020	95	
Annual Measure: Percentage reduction in nationwide air toxics emissions from stationary and mobile sources combined (actual data available later in 2003)	2002	5	
	2001	5	
	2000	3	
	1999	12	
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

The Air Toxics program is designed to reduce emissions of hazardous air pollutants (HAPs), such as hexane and benzene, from stationary sources, such as factories, and from vehicles.

The program's purpose is clearly laid out in the statute -- to reduce HAP emissions and unacceptable health risk from HAPs. The assessment showed that management is generally good. However, EPA has not fully utilized statutory flexibilities when implementing parts of the program. Although the long-term cancer reduction goal is clearly outcome-related, "unacceptable risk" is not defined, the relation between emissions changes and actual health outcomes are not known, and there are no efficiency measures. Specific findings include:

1. There is a clear purpose and design for the program.
2. The program has not shown it is maximizing net benefits, and proposing the most cost effective regulations.
3. There are inadequate linkages between annual performance and long-term goals that prevent it from demonstrating its impact on human health.
4. There are large data gaps for toxicity and on actual population exposure.

In response to these findings, the Administration will:

1. Increase funding for toxic air pollutant programs by \$7 million in State grants for monitoring to help fill data gaps.
2. Focus on maximizing programmatic net benefits and minimizing the cost per deleterious health effect avoided.
3. Establish better performance measures (including an appropriate efficiency measure).

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)

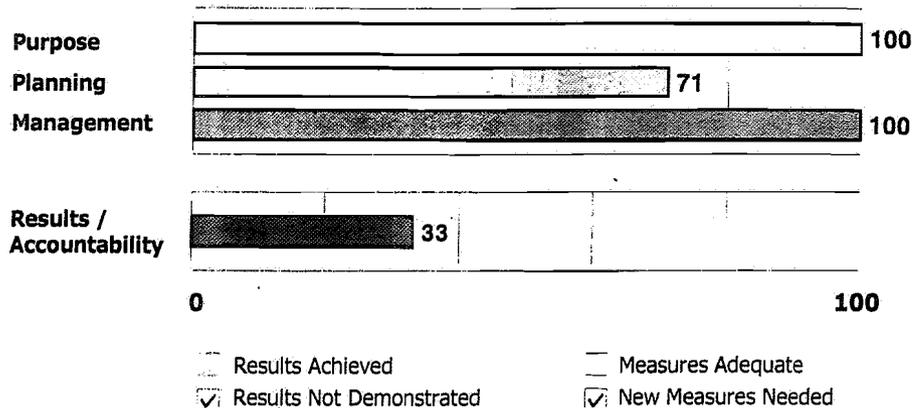
Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
115	118	125

Program: Civil Enforcement

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

	Year	Target	Actual
Long-term Measure: Measure under development			
Annual Measure: Millions of pounds of pollutants reduced by eliminating discharges through enforcement activities	2001	350	660
	2002	300	
	2003	300	
	2004	350	
Efficiency Measure: Dollars negotiated per workyear from polluters for Supplemental Environmental Projects that restore, protect or improve the environment	1999		17,000
	2000		
	2001		27,000

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

EPA's civil enforcement program enforces federal environmental laws to protect human health and the environment by ensuring that regulated entities comply with these laws. EPA's management of their federal enforcement responsibility includes direct federal action (inspections, investigations, compliance assistance and incentives) as well as assisting and overseeing state, tribal, and local partners in achieving compliance to protect human health and the environment.

Findings from the PART assessment include the following:

1. The program lacks adequate outcome oriented performance measures. This impacts both program planning and results. With better outcome performance measures, program planning could be adjusted to achieve more effective results.
2. Outside evaluators have criticized the program for: a) lack of adequate workload analysis to support existing staffing and priorities, and b) lack of good quality data to accurately determine compliance and monitor the effectiveness of enforcement activities.

In response to these findings the Administration will:

1. Fund \$5 million for an improved compliance data system.
2. Revise EPA's strategic plan with a focus on defining EPA's federal enforcement role and appropriate outcome performance measures.

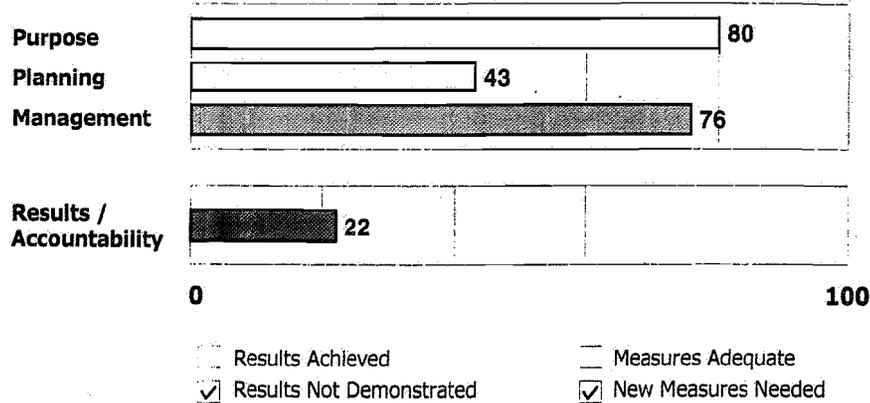
Program Funding Level (in millions of dollars)

2002 Actual	2003 Estimate	2004 Estimate
433	439	469

Program: Drinking Water State Revolving Fund

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency, activities



Key Performance Measures

Year Target Actual

	Year	Target	Actual
Long-term Measure: Percent of population served by community water systems in compliance with health-based drinking water standards	2001	91	91
	2003	92	
	2005	95	
Annual Measure: Measure under development			
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Formula/Block Grants

Program Summary:

The Drinking Water State Revolving Fund program capitalizes state revolving loan funds that finance infrastructure improvements for public water systems and other activities that support state drinking water programs and promote public health protection. Most of the money has gone to upgrade water treatment plants.

The PART indicated that the Drinking Water SRF program is very competent as a national financial resource for state infrastructure projects targeted at compliance with health-based drinking water standards. A challenge facing the Drinking Water SRF program is to develop measurable long-term and annual performance goals that link the program to its public health mission. Additional findings include:

1. The program purpose is clear and it is designed to have a significant impact on a well identified need, although, there are other federal, state and private resources available to address the problem.
2. Evaluation of public health impacts from infrastructure improvements is difficult, in part because states provide only aggregate data.

In response to these findings, the Administration will:

1. Continue capitalization of the Drinking Water SRF at the 2003 President's Budget level because, although target revolving levels for the fund have been reached, continued federal support will close the recently identified gap in funding capital infrastructure needs for the next twenty years. The extended commitment proposed in the President's 2004 Budget is expected to provide \$45 billion for loans and assistance through the State Drinking Water SRFs, which will support over 21,000 new projects.
2. Develop new performance measures to be included in EPA's 2004 GPRA plan to better demonstrate the impact of the program.

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)

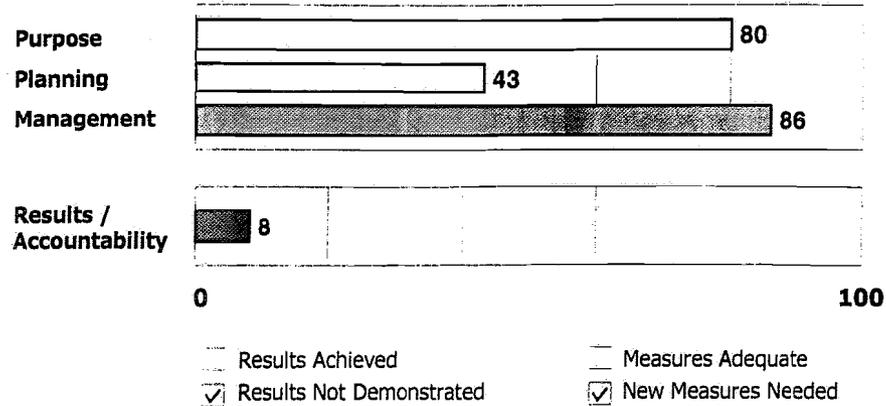
Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
850	850	850

Program: Existing Chemicals

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

Measure	Year	Target	Actual
Long-term Measure: Measure under development			
Annual Measure: Percent reduction in current year production-adjusted Risk Screening Environmental Indicators (RSEI) chemical risk based index (New measure)	2002	3	
	2003	4	
	2004	2	
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

EPA reviews and regulates chemical substances and mixtures that may harm human health or the environment. EPA's Existing Chemicals program covers the 62,000 chemicals that were already in commerce when Congress enacted the Toxic Substances Control Act, including testing, regulation, and reporting.

The assessment found:

1. The program has strong purpose and management. The program, however, lacks strategic planning.
2. The program cannot demonstrate any long-term impact. EPA's long-term goal does not focus on outcomes and lacks a baseline and clear time frames. The program also does not have an efficiency measure.
3. The program has demonstrated few results. EPA has reviewed approximately two percent of existing chemicals. GAO found that EPA has been slow to address these chemicals.
4. The law requires that EPA compile industry data, which can be costly and time-consuming.
5. EPA's current annual performance goals cannot be assessed because data are not available until two years into the future.

In response to these findings, the Administration will:

1. Provide \$1 million above the 2003 President's Budget to develop acute exposure chemical guidelines (AEGs). AEGs are important for homeland security response, recovery, and preparedness. AEGs represent three tiers of health effects (discomfort, disability, death) for five exposure durations (eight hours or less). This funding will help EPA to obtain more information on the possible harm to humans and the environment from chemicals, which will help the Agency to achieve a higher level of accountability and results.
2. Establish better performance measures, including efficiency measures.

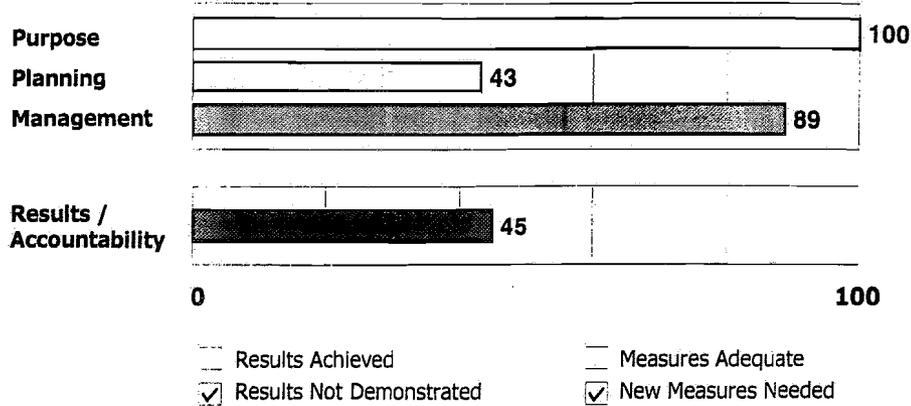
Program Funding Level (in millions of dollars)

2002 Actual	2003 Estimate	2004 Estimate
11	12	13

Program: Leaking Underground Storage Tanks

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

Long-term Measure: Measure under development			
Annual Measure: Leaking underground storage tank cleanups completed New annual outcome measures being developed	2000	21,000	20,834
	2001	21,000	19,074
	2002	21,000	
	2003	20,000	
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Formula/Block Grants

Program Summary:

The purpose of the Leaking Underground Storage Tank program is to clean up leaking underground petroleum tanks.

The assessment showed that:

1. The program purpose, to clean up leaking underground storage tanks, is clearly defined and is understood by states and other stakeholders.
2. The program is well managed, but would benefit from regular independent evaluations and a systematic process to review strategic planning.
3. Strategic planning is particularly critical to this program since it has already achieved its current long term goal and has no new long-term goal to challenge program managers. EPA may finish the backlog of 140,000 cleanups within the next decade. In the future, a smaller program may be suitable to address the lesser number of new releases that occur every year.
4. The program appears to be successful, as evidenced by achieving the goals of its authorizing legislation: cleanup of releases and upgrading tanks. However, the program scores poorly on the results section since it has no outcome based performance metrics that demonstrate an impact on people and the environment.

In response to these findings, the Administration will:

1. Continue to clean storage tank sites at a rapid pace.
2. Develop outcome measures that will test the link between the activities of the program and the impact on human health and the environment.

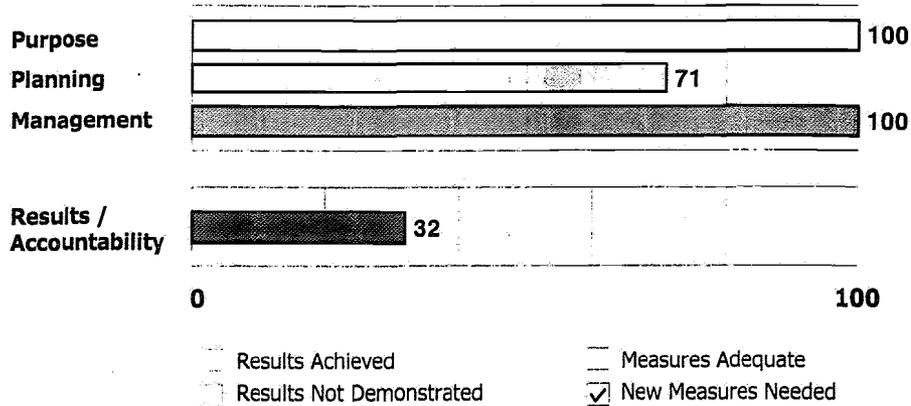
Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
73	72	73

Program: New Chemicals

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

Long-term Measure: Reduction of hazardous substances from products and processes in millions of pounds (Targets under development)	2007	250	
Annual Performance Goal: Annual quantity of hazardous substances eliminated through the Green Chemistry Challenge Awards Program from 1996 levels, in millions of pounds	2001		150
	2004	150	
Efficiency Measure: Measure under development			

Rating: Adequate

Program Type: Direct Federal

Program Summary:

EPA's New Chemicals program reviews new chemicals being introduced into commerce (manufactured or imported) to prevent possible harm to the public and environment.

The assessment found:

1. The program has very strong purpose and management.
2. The program collaborates with the Department of Labor on worker protection controls and has a cooperative agreement with Florida State University to identify and develop improved environmental indicators and program performance measures.
3. While the program has to some extent shown results, the main deficiency is the lack of adequate long-term measures. The measures are not outcomes, do not have clear targets and do not include at least one efficiency measure.
4. The PART exercise, however, has resulted in serious attention by the program to develop long-term goals for the program that can demonstrate results for human health and/or the environment.

In response to these findings, the Administration will:

1. Maintain funding at the 2003 President's Budget level.
2. Recommend improvement of the program's strategic planning, including an independent evaluation of the program, which can result in significant improvement of program results.
3. Establish more outcome-oriented measures including at least one efficiency measure.

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)

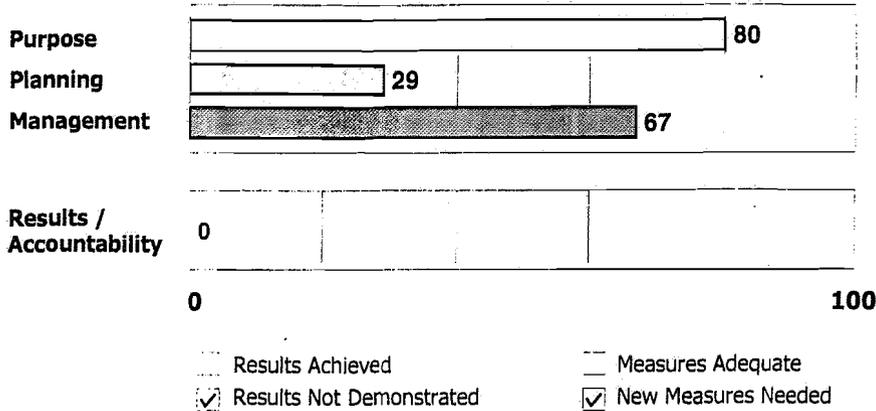
Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
14	15	15

Program: Nonpoint Source Grants

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

	Year	Target	Actual
Long-term Measure: Current measure achieved New measures under development			
Annual Measure: Measures under development			
Efficiency Measure: Measures under development			

Rating: Results Not Demonstrated

Program Type: Formula/Block Grants

Program Summary:

EPA's nonpoint source grants program, authorized by Section 319 of the Clean Water Act, gives money to States to reduce water pollution caused by nonpoint source runoff.

The analysis found that:

1. The program purpose is clear and agreed upon by interested parties.
2. The program has not collected sufficient performance information to determine whether it has had a significant effect on pollution.
3. The program's greatest weaknesses are strategic planning and a lack of measurable program results. Consequently, the program lacks adequate long-term, annual, and efficiency measures. Existing annual measures, such as "Number of states reporting on progress in implementing nonpoint source programs" do not provide useful, results-based performance information. The program's previous long-term goal has been met, and the agency has not yet developed a new one.
4. The program is in the process of developing new performance measures that focus on outcomes and efficiency.
5. EPA has made significant improvements to program management over the past several years, which will assist in their efforts to develop new performance measures. For example, in 2002 EPA implemented a new grants tracking system with additional reporting requirements. Through this new system, EPA will be able to see the estimated reductions in sediment and nutrient loads associated with each project implementation, as well as project geolocation.
6. The program overlaps with others in rural areas, such as the Department of Agriculture's Environmental Quality Incentives Program (EQIP) and Conservation Reserve Program.

In response to these findings, and to reduce overlap with similar Department of Agriculture programs that received significant funding increases in the Farm Bill (EQIP goes from \$200 million in 2002 to \$800 million in 2004), the Budget proposes to:

1. Shift the program's focus in agricultural watersheds from implementation of pollution reduction projects to planning, monitoring and assisting in the coordination and implementation of watershed-based plans in impaired and threatened waters.
2. Establish more outcome-focused measures and at least one efficiency measure.

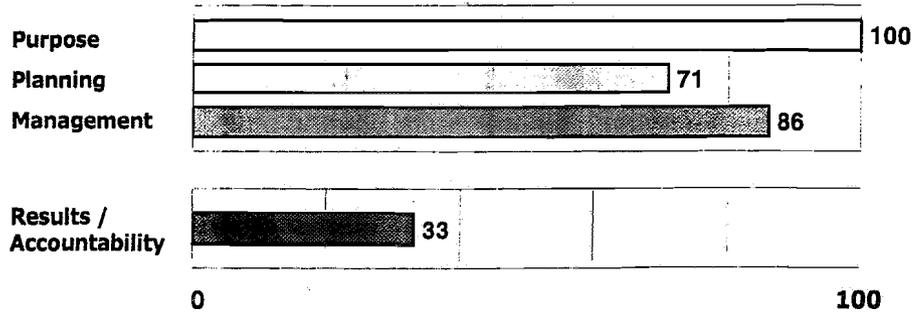
Program Funding Level (in millions of dollars)

2002 Actual	2003 Estimate	2004 Estimate
237	238	238

Program: Pesticide Registration

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



- Results Achieved
- Results Not Demonstrated
- Measures Adequate
- New Measures Needed

Key Performance Measures

Year Target Actual

Measure	Year	Target	Actual
Long-term Measure: Measure under development			
Annual Measure: Number of new reduced risk active ingredients registered	2001	11	11
	2002	10	15
	2003	13	
	2004	13	
Long-term Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

The Pesticide Registration program at EPA evaluates new pesticides and registers them for use in the United States. EPA examines the ingredients of the pesticide, how it will be used, as well as storage and disposal practices to ensure that, when used properly, the pesticide will not have any adverse effects on humans or the environment.

The assessment indicates that the program addresses an important nationwide interest and that further work is needed in the area of performance measurement. Specific findings include:

1. The program has a clear mission and statutory authority, and it provides for the safe use of pesticides on a nationwide basis.
2. The program has established long-term goals but they are not adequate because the goals lack quantified baselines and/or performance targets and they need to be more outcome-focused.
3. The program regularly reviews overall progress toward annual goals and does make management decisions to address issues that impede progress.
4. The program does not use efficiency or cost effectiveness metrics to monitor program management or performance.
5. Generally the program has met its annual goals but it is unclear how achieving these annual targets leads to quantifiable progress toward the program's long-term goals. One new long-term efficiency goal that targets reductions in decision-making time has been proposed for this program by EPA, but further work is needed to finalize the goal and to develop appropriate annual targets to support it.

In response to these findings, the Administration will:

1. Implement appropriate long-term measures.
2. Develop adequate efficiency and cost effectiveness measures to improve program performance and goal-setting.

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)

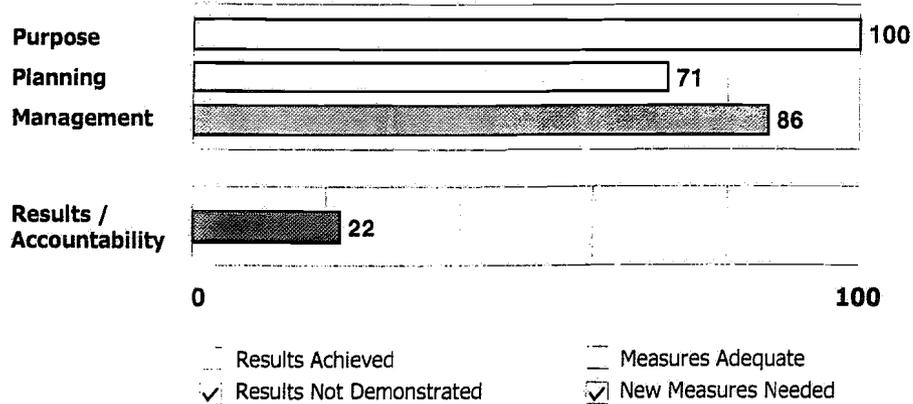
Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
45	44	48

Program: Pesticides Reregistration

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency, activities



Key Performance Measures

Year Target Actual

Measure	Year	Target	Actual
Long-term Measure: Measure under development			
Annual Measure: Percent of Reregistration Eligibility Decisions (REDs) completed A RED document summarizes the reregistration conclusions and outlines any risk reduction measures necessary for the pesticide to continue to be registered in the U.S.	2001	72.4	71.6
	2002	76.4	72.7
	2003	83	
	2004	88	
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

The Pesticide Reregistration program reviews pesticides already registered by EPA to make sure they meet current scientific and regulatory standards. The reregistration process considers the human health and ecological effects of pesticides and can result in changes to existing registrations to reduce risks that are of concern.

The assessment indicates that the program addresses an unambiguous quantifiable need and that further work is needed in the areas of efficiency evaluation and performance measurement. Specific findings include:

1. The program is the only entity that reviews existing pesticides to ensure they keep pace with advancing safety standards. The program has a clear mission and statutory authority.
2. The program has established long-term goals but they are not adequate because the goals lack quantified baselines and/or targets and because they need to be more outcome-focused.
3. The program regularly reviews progress toward annual goals and does make management decisions to address issues that impede progress but the program does not use efficiency or cost effectiveness measures to monitor program management and performance.
4. EPA has proposed a long-term efficiency goal for this program that targets reductions in decision-making time but further work is needed to finalize the goal and to develop appropriate annual targets to support it.
5. The program has met statutory deadlines but does not always meet annual goals and it is unclear how achieving annual targets leads to quantifiable progress toward the program's long-term goals. Progress toward future deadlines will require additional work on antimicrobial pesticides.

As a result of this review, the Administration:

1. Recommends providing an additional \$1.0 million for antimicrobial pesticides and \$0.5 million for inerts reregistration activities.
2. Will implement appropriate long-term performance measures, improved annual targets, and adequate long and short term efficiency measures.

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)

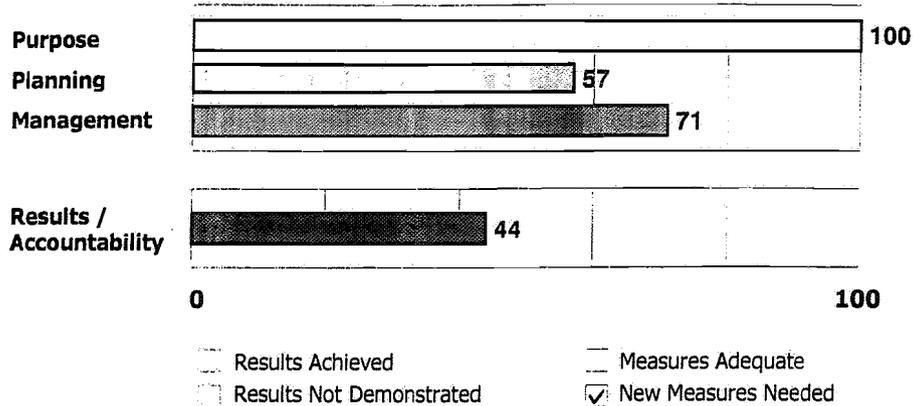
Program Funding Level (in millions of dollars)

2002 Actual	2003 Estimate	2004 Estimate
45	48	52

Program: Superfund Removal

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

Measure	Year	Target	Actual
Long-term Measure: Measure under development			
Annual Measure: Number of removals completed	2001	300	302
	2002	275	426
	2003	350	
	2004	350	
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

Superfund's Removal Program is a short term cleanup program to remediate emergency and non-emergency situations in two years or less.

The assessment showed that:

1. The program's purpose, to perform emergency cleanup of hazardous materials, is very clearly defined and understood by states and stakeholders.
2. The program would benefit from regular independent evaluations and a systematic process to review strategic planning.
3. The program meets its targets for number of removals each year, an output measure. However, the program scores poorly on the Results/Accountability section since it has no outcome based performance metrics that demonstrate the extent of the impact on public health and the environment.
4. There are no efficiency measures and the development requires overcoming significant data issues, namely, poor historic data quality in EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database.

In response to these findings, the Administration will:

1. Propose funding at the 2003 President's Budget level.
2. Develop outcome oriented measures that test the linkage between program activities and the impact on human health and the environment.
3. Improve data quality in the CERCLIS database.

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)

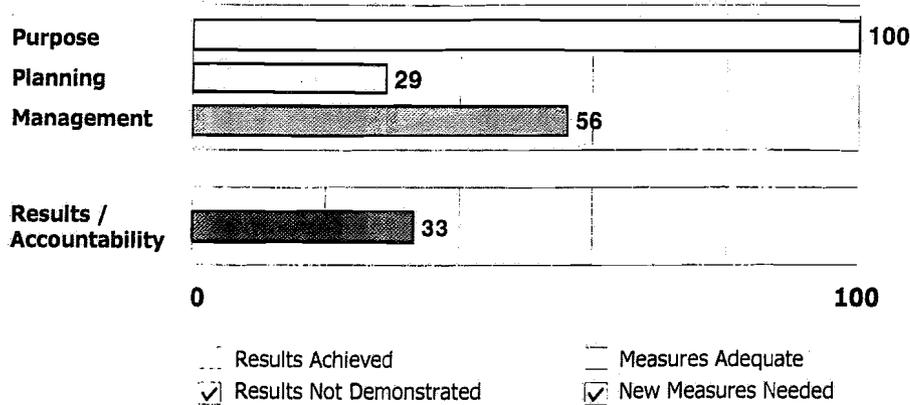
Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
203	203	203

Program: Tribal General Assistance

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

	Year	Target	Actual
Long term Measure: Measure under development			
Annual Measure: Percent of tribes with delegated and non-delegated environmental programs (New measure, targets under development)			
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Formula/Block Grants

Program Summary:

The Indian Environmental General Assistance Program (GAP) provides grants to federally recognized Native American tribes and eligible intertribal consortia to improve their ability to administer environmental regulatory programs.

The analysis found that:

1. The program's purpose is very clear and agreed upon by interested parties. Not all tribes currently have the financial resources and technical ability to develop and implement Federal environmental programs on their own.
2. Strategic planning is the program's weakest area, and plans from 2003 and earlier had weak performance goals that focused on processes more than environmental outcomes.
3. In recognition of these weaknesses, EPA has been working to develop new long-term goals and efficiency measures.
4. The program also adopted new annual performance measures, which more accurately reflect the program's purpose and activities.
5. GAP has improved its program management over the last year. It implemented a new grants management system which provides better information on grantee activities, and it also developed a tribal database which holds environmental, cultural, and administrative information on each of the tribes.

As a result of these findings, the Administration recommends:

1. Increasing GAP funding to \$62.5 million, \$5 million above the 2003 President's Budget level of \$57 million, in recognition that program management is improving.
2. That EPA use the new information from the recently implemented grants management system to further improve the program's strategic planning and management, including the development of long-term goals and efficiency measures.

Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
52	57	62

REPLACEMENT PAGES for the FY 2004 CONGRESSIONAL JUSTIFICATION (CJ)

Note: Please replace the following CJ pages with the enclosed replacement pages:

- **Table of Contents**
- **GOAL 1 - pages I-54,71, and 72;**
- **GOAL 2 - page II-46;**
- **GOAL 4 - pages IV-28, 62,63,78, 79, 100 and 101;**
- **GOAL 5 - pages V-74, 87 and 88;**
- **GOAL 6 - pages VI-28, 51-54, 66, and 81-84;**
- **GOAL 8 - pages VIII-36-37, 50-51, 60-61, and 64;**
- **Goal 10 - pages X-12, 17-18, and 32.**

Also, please insert the following:

- **INTRODUCTION and OVERVIEW should be inserted behind the Introduction and Overview tab.**
- **PART (pages 1-11) should be inserted at the end of the Special Analysis section;**
- **INDEX (tab and pages) should be inserted after the Special Analysis Section.**

If you have any question regarding these inserts, please contact Carolyn Dickey on (202) 564-3365.

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Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Clean Air

Objective: Reduce Air Toxics Risk

By 2020, eliminate unacceptable risks of cancer and other significant health problems from air toxic emissions for at least 95 percent of the population, with particular attention to children and other sensitive subpopulations, and substantially reduce or eliminate adverse effects on our natural environment. By 2010, the tribes and EPA will have the information and tools to characterize and assess trends in air toxics in Indian country.

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Air Toxics Risk	\$113,811.7	\$118,023.2	\$127,747.1	\$9,723.9
Environmental Program & Management	\$56,147.2	\$56,913.9	\$59,095.2	\$2,181.3
Science & Technology	\$29,082.8	\$23,818.9	\$24,361.5	\$542.6
State and Tribal Assistance Grants	\$28,581.7	\$37,290.4	\$44,290.4	\$7,000.0
Total Workyears	375.9	371.4	378.5	7.1

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Air Toxics Research	\$18,923.4	\$19,883.7	\$20,342.4	\$458.7
Air, State, Local and Tribal Assistance Grants: Other Air Grants	\$30,790.4	\$37,290.4	\$44,290.4	\$7,000.0
Congressionally Mandated Projects	\$4,095.0	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and Operations	\$5,430.0	\$5,249.3	\$5,911.0	\$661.7
Hazardous Air Pollutants	\$52,225.3	\$52,622.4	\$54,235.7	\$1,613.3
Homeland Security-Preparedness,	\$353.5	\$0.0	\$0.0	\$0.0

Clean Air Act Amendments, Title II (42 U.S.C. 7521-7590)

Clean Air Act Amendments, Title IV (42 U.S.C. 7651-7661f)

Research

Clean Air Act (CAA) (42 U.S.C. 7401-7671q)

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Clean Air

Objective: Reduce Acid Rain.

By 2005, reduce ambient nitrates and total nitrogen deposition to 1990 levels. By 2010, reduce ambient sulfates and total sulfur deposition by up to 30 percent from 1990 levels.

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Acid Rain.	\$21,563.8	\$21,097.8	\$21,230.8	\$133.0
Environmental Program & Management	\$15,383.7	\$15,278.9	\$15,411.9	\$133.0
Science & Technology	\$4,321.0	\$3,991.2	\$3,991.2	\$0.0
State and Tribal Assistance Grants	\$1,859.1	\$1,827.7	\$1,827.7	\$0.0
Total Workyears	90.9	91.5	87.3	-4.2

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Acid Rain -CASTNet	\$3,991.2	\$3,991.2	\$3,991.2	\$0.0
Acid Rain -Program Implementation	\$12,500.2	\$12,790.4	\$12,812.7	\$22.3
Air, State, Local and Tribal Assistance Grants: Other Air Grants	\$1,827.7	\$1,827.7	\$1,827.7	\$0.0
Congressionally Mandated Projects	\$250.0	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and Operations	\$1,311.3	\$1,292.6	\$1,357.1	\$64.5
Legal Services	\$834.7	\$923.5	\$957.3	\$33.8
Management Services and	\$276.0	\$272.4	\$284.8	\$12.4

Environmental Protection Agency

**FY 2004 Annual Performance Plan and Congressional Justification
Clean and Safe Water**

Objective: Protect Watersheds and Aquatic Communities

By 2005, increase by 175 the number of watersheds where 80 percent or more of assessed waters meet water quality standards, including standards that support healthy aquatic communities. (The 1998 baseline is 501 watersheds out of a national total of 2,262.)

**Resource Summary
(Dollars in Thousands)**

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Protect Watersheds and Aquatic Communities	\$474,725.2	\$435,814.7	\$479,787.4	\$43,972.7
Environmental Program & Management	\$198,157.5	\$162,894.0	\$179,114.8	\$16,220.8
Hazardous Substance Superfund	\$0.0	\$25.7	\$2.6	(\$23.1)
Science & Technology	\$41,203.5	\$38,592.9	\$41,270.0	\$2,677.1
State and Tribal Assistance Grants	\$235,364.2	\$234,302.1	\$259,400.0	\$25,097.9
Total Workyears	1,000.5	988.8	989.3	0.5

**Key Program
(Dollars in Thousands)**

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Chesapeake Bay	\$20,551.8	\$20,650.8	\$20,777.7	\$126.9
Congressionally Mandated Projects	\$33,107.4	\$0.0	\$0.0	\$0.0
Ecosystems Condition, Protection and Restoration Research	\$37,785.0	\$38,592.9	\$41,270.0	\$2,677.1
Facilities Infrastructure and Operations	\$5,673.6	\$13,851.3	\$13,870.8	\$19.5

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems

Objective: Reduce Risks from Lead and Other Toxic Chemicals

By 2007, significantly reduce the incidence of childhood lead poisoning and reduce risks associated with polychlorinated biphenyls (PCBs), mercury, dioxin, and other toxic chemicals of national concern.

**Resource Summary
(Dollars in Thousands)**

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Risks from Lead and Other Toxic Chemicals	\$37,745.8	\$36,355.9	\$38,722.5	\$2,366.6
Environmental Program & Management	\$21,891.9	\$22,673.9	\$25,022.5	\$2,348.6
State and Tribal Assistance Grants	\$15,853.9	\$13,682.0	\$13,700.0	\$18.0
Total Workyears	135.7	144.7	149.8	5.1

**Key Program
(Dollars in Thousands)**

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Congressionally Mandated Projects	\$380.0	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and Operations	\$1,940.1	\$2,076.6	\$2,152.8	\$76.2
Grants to States for Lead Risk Reduction	\$13,682.0	\$13,682.0	\$13,700.0	\$18.0
Lead Risk Reduction Program	\$13,092.6	\$13,166.3	\$14,832.9	\$1,666.6
Legal Services	\$220.4	\$238.9	\$248.3	\$9.4

health effects and exposure to environmental pollutants. Basic research on the mechanisms underlying these effects in combination with problem-driven research programs contribute significantly to the Agency's ability to fulfill its goals and objectives under several environmental mandates.

The CDC, through the National Center for Environmental Health (NCEH), studies health problems associated with human exposure to lead, radiation, air pollution, and other toxics, as well as to hazards resulting from technologic or natural disasters. These are mainly surveillance and epidemiology studies and NCEH is particularly interested in studies that benefit children, the elderly, and persons with disabilities. The NCEH laboratory supports many of EPA's studies and is the analytical laboratory for samples collected in the EPA-sponsored pesticide study in the National Health and Nutrition Examination Survey (NHANES-4) being conducted by the National Center for Health Statistics (NCHS) of CDC. NHANES-4 is a survey of the national population and includes data on potentially sensitive sub-populations such as children and the elderly. EPA is participating in this survey with NCHS to collect information on children's exposure to pesticides and other environmental contaminants.

The National Institute of Child Health and Human Development (NICHD) supports laboratory, clinical, and epidemiological research on the reproductive, neurobiological, developmental, and behavioral processes that determine (and maintain) the health of children and adults. EPA is collaborating with NICHD, CDC, and other Federal agencies in the design and implementation of a National Children's Study of 100,000 children, who will be enrolled during the mother's pregnancy and followed throughout childhood and adolescence. This study was mandated in the Children's Health Act of 2000 to study environmental influences on children's health and development.

Statutory Authorities

Toxic Substances Control Act (TSCA) section 4, 5, 6, 8, 12(b) and 13 (15 U.S.C. 2603-5, 2607, 2611 and 2612)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) sections 3, 4, 5, 6, 11, 18, 24, and 25 (7 U.S.C. 136a, 136a-1, 136c, 136d, 136i, 136p, 136v, and 136w)

Federal Food, Drug, and Cosmetic Act (FFDCA)

Research

Toxic Substances Control Act (TSCA)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

Federal Food, Drug, and Cosmetic Act (FFDCA)

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems

Objective: Ensure Healthier Indoor Air.

By 2005, 16 million more Americans than in 1994 will live or work in homes, schools, or office buildings with healthier indoor air.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Ensure Healthier Indoor Air.	\$40,290.3	\$40,322.7	\$42,380.4	\$2,057.7
Environmental Program & Management	\$29,514.7	\$30,455.1	\$32,995.5	\$2,540.4
Science & Technology	\$2,187.8	\$1,727.7	\$1,234.9	(\$492.8)
State and Tribal Assistance Grants	\$8,587.8	\$8,139.9	\$8,150.0	\$10.1
Total Workyears	123.6	132.2	126.1	-6.1

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Air, State, Local and Tribal Assistance Grants: Other Air Grants	\$8,139.9	\$8,139.9	\$8,150.0	\$10.1
Children's Indoor Environments	\$13,287.9	\$13,918.4	\$16,714.5	\$2,796.1
Facilities Infrastructure and Operations	\$1,799.7	\$1,846.2	\$1,866.2	\$20.0
Indoor Environments	\$9,366.2	\$9,307.6	\$8,859.3	(\$448.3)
Legal Services	\$92.8	\$103.5	\$107.2	\$3.7
Management Services and	\$526.6	\$513.2	\$495.2	(\$18.0)

Statutory Authorities

Radon Gas and Indoor Air Quality Research Act of Title IV of the Superfund Amendments and Re-authorization Act (SARA) of 1986

Toxic Substances Control Act (TSCA), section 6, Titles II, and Title III (15 U.S.C. 2605 and 2641-2671)

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

Clean Air Act (CAA)

Safe Drinking Water Act (SDWA)

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems

Objective: Facilitate Prevention, Reduction and Recycling of PBTs and Toxic Chemicals

By 2005, facilitate the prevention, reduction, and recycling of toxic chemicals and municipal solid wastes, including PBTs. In particular, reduce by 20 percent the actual (from 1992 levels) and by 30 percent the production-adjusted (from 1998 levels) quantity of Toxic Release Inventory (TRI)-reported toxic pollutants which are released, disposed of, treated, or combusted for energy recovery, half through source reduction.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Facilitate Prevention, Reduction and Recycling of PBTs and Toxic Chemicals	\$48,461.0	\$46,115.9	\$49,958.2	\$3,842.3
Environmental Program & Management	\$38,628.1	\$36,122.0	\$39,950.6	\$3,828.6
State and Tribal Assistance Grants	\$9,832.9	\$9,993.9	\$10,007.6	\$13.7
Total Workyears	180.5	196.0	194.5	-1.5

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
ATSDR Superfund Support	\$654.3	\$0.0	\$0.0	\$0.0
Congressionally Mandated Projects	\$1,700.0	\$0.0	\$0.0	\$0.0
Design for the Environment	\$4,707.6	\$4,810.7	\$4,880.6	\$69.9
Facilities Infrastructure and Operations	\$2,726.4	\$2,779.1	\$2,936.7	\$157.6

a draft interagency memorandum of understanding (MOU) which will lead to increased reuse and recycling of an array of computers and other electronics hardware used by civilian and military agencies. Implementation of this MOU will divert substantial quantities of plastic, glass, lead, mercury, silver, and other materials from disposal.

Statutory Authorities

Toxic Substances Control Act (TSCA) sections 4 and 6 and TSCA Titles II, III, and IV (15 U.S.C. 2605 and 2641-2692)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) sections 3, 4, 5, 6, 11, 18, 24, and 25 (7 U.S.C. 136a, 136a-1, 136c, 136d, 136i, 136p, 136v, and 136w)

Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)

Clean Air Act (CAA) section 309 (42 U.S.C. 7609)

Clean Water Act (33 U.S.C. 1251-1387)

Emergency Planning and Community Right-to-Know Act (EPCRA) (42 U.S.C. 11001-11050)

Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6901-6992k)

Solid Waste Disposal Act as amended by the Hazardous Waste Amendments of 1984.

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Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems

Objective: Assess Conditions in Indian Country

By 2005, EPA will assist all Federally recognized tribes in assessing the condition of their environment, help in building tribes' capacity to implement environmental management programs, and ensure that EPA is implementing programs in Indian country where needed to address environmental issues

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Assess Conditions in Indian Country	\$64,326.3	\$70,909.4	\$76,435.2	\$5,525.8
Environmental Program & Management	\$13,163.6	\$13,439.7	\$13,935.2	\$495.5
State and Tribal Assistance Grants	\$51,162.7	\$57,469.7	\$62,500.0	\$5,030.3
Total Workyears	98.9	90.7	91.3	0.6

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
American Indian Environmental Office	\$9,911.6	\$10,219.7	\$10,665.9	\$446.2
Facilities Infrastructure and Operations	\$1,165.4	\$1,250.3	\$1,154.4	(\$95.9)
Legal Services	\$1,383.0	\$1,428.7	\$1,470.8	\$42.1
Management Services and Stewardship	\$426.9	\$475.5	\$518.1	\$42.6
Regional Management	\$80.0	\$65.5	\$126.0	\$60.5

Environmental Protection Agency

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Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response

Objective: Regulate Facilities to Prevent Releases

By 2005, EPA and its Federal, state, Tribal, and local partners will ensure that more than 277,000 facilities are managed according to the practices that prevent releases to the environment.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Regulate Facilities to Prevent Releases	\$164,641.2	\$167,261.2	\$168,479.9	\$1,218.7
Environmental Program & Management	\$100,715.9	\$103,863.6	\$103,187.8	(\$675.8)
Hazardous Substance Superfund	\$251.7	\$226.3	\$232.5	\$6.2
Oil Spill Response	\$13,292.0	\$14,166.0	\$14,789.4	\$623.4
Science & Technology	\$11,021.0	\$9,548.7	\$10,782.0	\$1,233.3
State and Tribal Assistance Grants	\$39,360.6	\$39,456.6	\$39,488.2	\$31.6
Total Workyears	754.9	800.4	791.6	-8.8

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Civil Enforcement	\$1,512.0	\$1,538.6	\$1,588.2	\$49.6
Community Right to Know (Title III)	\$4,968.4	\$4,953.1	\$5,018.3	\$65.2
Compliance Assistance and Centers	\$264.8	\$271.4	\$279.9	\$8.5

support centers under the Superfund program, thereby sharing technical information across program applications.

FY 2004 Change from FY 2003 Request

EPM

- (-\$3,400,000) Redirected to Goal 4, Objective 5 to support the energy recovery, recycling, waste minimization and retail themes and to Goal 5, Objective 1 to support the one clean up and revitalization themes. Redirection reflects completion of program guidance documents, nearing completion of permitting goals and cost savings from docket consolidation.
- (-\$468,900 -5.3 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

S&T

Research

- (+\$1,000,000) This increase represents a shift from ecosystems protection research (Objective 8.1) and from research to enhance environmental decision making (Objective 8.3) to Goal 5, Objective 2 to fund research in groundwater/surface water interactions. Research will include: 1) determining how groundwater (gw) quality impacts surface water (sw) quality with respect to designated water uses and wetlands; 2) developing and evaluating indicators of ecosystem health and water quality; and 3) developing and evaluating models that integrate hydrology, biology, and biogeochemistry. This research will increase the Agency's knowledge of the interactions that occur at this interface, and thereby enhance the quality and timeliness of site remediations.
- (+\$118,600, 1.2 FTE) This increase is to support the Hazardous Substance Technical Liaison (HSTL) program. This program provides and facilitates technical support to the Regions in waste-related areas.
- (-\$151,300, -1.5 FTE) These workyears are being redirected to support the Agency's Homeland Security Strategic plan in the area of building decontamination research (Goal 5.1). As a result, research to investigate the fundamental processes that lead to formation of products of incomplete combustion (PICs) in waste incinerators will be delayed

- There are additional increases in payroll, cost of living, and enrichment for new and existing FTE.

GOAL: BETTER WASTE MANAGEMENT, RESTORATION OF CONTAMINATED WASTE SITES, AND EMERGENCY RESPONSE

OBJECTIVE: REGULATE FACILITIES TO PREVENT RELEASES

Annual Performance Goals and Measures

Oil Spill Response

- In 2004 Respond to or monitor 300 oil spills.
- In 2003 Respond to or monitor 300 significant oil spills in the inland zone.
- In 2002 EPA responded to or monitored 203 oil spills.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Oil spills responded to or monitored by EPA.	203	300	300	spills

Baseline: EPA typically responds to or monitors 300 oil spill cleanups per year.

Ensure WIPP Safety

- In 2004 Certify that 18,000 55-gallon drums of radioactive waste (containing approximately 54,000 curies) shipped by DOE to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards.
- In 2003 Certify that 12,000 55 gallon drums of radioactive waste (containing approximately 36,000 curies) shipped by DOE to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards.
- In 2002 EPA certified that 22,800 55 gallon drums of radioactive waste (containing approximately 68,400 curies) shipped by DOE to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of 55-Gallon Drums of Radioactive Waste Disposed of According to EPA Standards	22,800	12,000	18,000	Drums

Baseline: The Waste Isolation Pilot Plant (WIPP) near Carlsbad, NM was opened in May 1999 to accept radioactive transuranic waste. By the end of FY 2002, approximately 35,000 (cumulative) 55 gallon drums will be safely disposed. In FY 2003, EPA expects that DOE will ship an additional 12,000 55 gallon drums of waste. Through FY 2004, EPA expects that DOE will have shipped safely and according to EPA standards, approximately 7.5% of the planned waste volume, based on disposal of 860,000 drums over the next 40 years. Number of drums shipped to the WIPP facility on an annual basis is dependent on DOE priorities and funding. EPA volume estimates are based on projecting the average shipment volumes over 40 years with an initial start up.

Tribal Prevention Assistance

- In 2004 Assist Tribes in evaluation of waste management facility program needs and in the closing or upgrading of open dumps.
- In 2003 Increase the percentage of Tribes evaluated for hazardous waste management by 4 percentage points, and assist in evaluating and closing open dumps on Tribal lands.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percentage of tribes evaluated for hazardous waste management needs.		4	4	percent
Number of open dumps on Tribal lands that comply with regulatory landfill standards, or have closed with protections against future dumping put in place.		no target		sites

Baseline: By the end of FY 2002, RCRA Subtitle C management needs had been evaluated for 177 Tribes. Baseline data for the Tribal Open Dump Cleanup Project is currently under development.

Environmental Protection Agency

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Reduction of Global and Cross-border Environmental Risks

Objective: Reduce Greenhouse Gas Emissions.

By 2010, U.S. greenhouse gas emissions will be substantially reduced through programs and policies that also lead to reduced costs to consumers of energy and reduced emissions leading to cleaner air and water. In addition, EPA will carry out assessments and analyses and promote education to provide an understanding of the consequences of global change needed for decision making.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Greenhouse Gas Emissions.	\$146,393.0	\$136,953.4	\$138,105.8	\$1,152.4
Environmental Program & Management	\$99,976.1	\$98,104.8	\$99,256.9	\$1,152.1
Science & Technology	\$46,416.9	\$38,848.6	\$38,848.9	\$0.3
Total Workyears	329.9	303.9	299.0	-4.9

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Climate Change Research	\$21,350.5	\$21,729.3	\$21,528.6	(\$200.7)
Climate Protection Program: Buildings	\$48,571.3	\$49,820.5	\$48,324.5	(\$1,496.0)
Climate Protection Program: Carbon Removal	\$1,549.7	\$1,576.3	\$1,734.5	\$158.2
Climate Protection Program: Industry	\$25,368.6	\$25,673.1	\$26,439.1	\$766.0
Climate Protection Program: International Capacity Building	\$6,982.8	\$7,086.5	\$6,608.1	(\$478.4)

GOAL: REDUCTION OF GLOBAL AND CROSS-BORDER ENVIRONMENTAL RISKS

OBJECTIVE: REDUCE GREENHOUSE GAS EMISSIONS.

Annual Performance Goals and Measures

Reduce Greenhouse Gas Emissions

- In 2004 Greenhouse gas emissions will be reduced from projected levels by approximately 81 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.
- In 2003 Greenhouse gas emissions will be reduced from projected levels by approximately 72.2 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.
- In 2002 On track to ensure that greenhouse gas emissions will be reduced from projected levels by approximately 65.8 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Annual Greenhouse Gas Reductions - All EPA Programs	On Track	72.2	81.3	MMTCE
Greenhouse Gas Reductions from EPA's Buildings Sector Programs (ENERGY STAR)	On Track	19.2	21.4	MMTCE
Greenhouse Gas Reductions from EPA's Industrial Efficiency/Waste Management Programs	On Track	6.7	7.4	MMTCE
Greenhouse Gas Reductions from EPA's Industrial Methane Outreach Programs	On Track	17.0	18.1	MMTCE
Greenhouse Gas Reductions from EPA's Industrial HFC/PFC Programs	On Track	24.9	29.6	MMTCE
Greenhouse Gas Reductions from EPA's Transportation Programs	On Track	2.4	2.8	MMTCE
Greenhouse Gas Reductions from EPA's State and Local Programs	On Track	2.0	2.0	MMTCE

Baseline: The baseline for evaluating program performance is a projection of U.S. greenhouse gas emissions in the absence of the U.S. climate change programs. The baseline was developed as part of an interagency evaluation of the U.S. climate change programs in 2002, which built on similar baseline forecasts developed in 1997 and 1993. Baseline data for carbon emissions related to energy use is based on data from the Energy Information Agency (EIA). Baseline data for non-carbon dioxide (CO2) emissions, including nitrous oxide and other high global warming potential gases are maintained by EPA. Baseline information is discussed at length in the U.S. Climate Action Report 2002 (www.epa.gov/globalwarming/publications/car/index.html), which provides a discussion of differences in assumptions between the 1997 baseline and the 2002 update, including which portion of energy efficiency programs are included in the estimates. EPA develops the non-CO2 emissions baselines and projections using information from partners and other sources. EPA continues to develop annual inventories as well as update methodologies as new information becomes available.

Reduce Energy Consumption

- In 2004 Reduce energy consumption from projected levels by more than 110 billion kilowatt hours, contributing to over \$7.5 billion in energy savings to consumers and businesses.
- In 2003 Reduce energy consumption from projected levels by more than 95 billion kilowatt hours, contributing to over \$6.5 billion in energy savings to consumers and businesses.
- In 2002 On track to ensure that energy consumption is reduced from projected levels by more than 85 billion kilowatt hours, contributing to over \$10 billion in energy savings to consumers and businesses.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Annual Energy Savings - All EPA Programs	On Track	95	110	Billion kWh

Baseline: The baseline for evaluating program performance is a projection of U.S. greenhouse gas emissions in the absence of the U.S. climate change programs. The baseline was developed as part of an interagency evaluation of the U.S. climate change programs

in 2002, which built on similar baseline forecasts developed in 1997 and 1993. Baseline data for carbon emissions related to energy use is based on data from the Energy Information Agency (EIA). Baseline data for non-carbon dioxide (CO₂) emissions, including nitrous oxide and other high global warming potential gases are maintained by EPA. Baseline information is discussed at length in the U.S. Climate Action Report 2002 (www.epa.gov/globalwarming/publications/car/index.html), which provides a discussion of differences in assumptions between the 1997 baseline and the 2002 update, including which portion of energy efficiency programs are included in the estimates. EPA develops the non-CO₂ emissions baselines and projections using information from partners and other sources. EPA continues to develop annual inventories as well as update methodologies as new information becomes available.

Clean Automotive Technology

In 2004 Transfer hybrid powertrain components, originally developed for passenger car applications, to meet size, performance, durability, and towing requirements of Sport Utility Vehicle and urban delivery vehicle applications with an average fuel economy improvement of 25% over the baseline.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Fuel Economy of EPA-Developed SUV Hybrid Vehicle over EPA Driving Cycles Tested			25.2	MPG

Baseline: The average fuel economy of all SUVs sold in the US in 2001 is 20.2 mpg. Values for 2002, 2003, and 2004 represent 15%, 20%, and 25% improvements over this baseline, respectively. The long-term target is to demonstrate a practical and affordable powertrain that is 30% more efficient by 2005, and 100% more efficient by 2010.

Validation and Verification of Performance Measures

FY 2004 Performance Measure: Annual Greenhouse Gas Emissions Reductions overall and by Sector

Performance Database: Climate Protection Partnerships Division Tracking System.

Data Source: Baseline data for carbon emissions related to energy use comes from the Energy Information Agency (EIA). Baseline data for non-carbon dioxide (CO₂) emissions, including nitrous oxide and other high global warming potential gases, are maintained by EPA. Baseline information is discussed at length in the U.S. Climate Action Report 2002. EPA develops the carbon and non-CO₂ emissions baselines and projections using information from partners and other sources. Data collected by EPA's voluntary programs include partner reports on facility-specific improvements (e.g. space upgraded, kilowatt-hours (kWh) reduced), national market data on shipments of efficient products, and engineering measurements of equipment power levels and usage patterns.

Methods, Assumptions, and Suitability: Most of the voluntary climate programs' focus is on energy efficiency. For these programs, EPA estimates the expected reduction in electricity consumption in kilowatt-hours (kWh). Emissions prevented are calculated as the product of the kWh of electricity saved and an annual emission factor (e.g., MMTCE prevented per kWh). Other programs focus on directly lowering greenhouse gas emissions (e.g., Natural Gas STAR, Landfill Methane Outreach, and Coalbed Methane Outreach); for these, greenhouse gas emission reductions are estimated on a project-by-project basis. EPA maintains a "tracking system" for emissions reductions.

QA/QC Procedures: EPA devotes considerable effort to obtaining the best possible information on which to evaluate emissions reductions from voluntary programs. Peer-reviewed carbon-conversion factors are used to ensure consistency with generally accepted measures of GHG emissions, and peer-reviewed methodologies are used to calculate GHG reductions from these programs.

Data Quality Review: The Administration regularly evaluates the effectiveness of its climate programs through interagency evaluations. The second such interagency evaluation, led by the White House Council on Environmental Quality, examined the status of U.S. climate change programs. The review included participants from EPA and the Departments of State, Energy, Commerce, Transportation, and Agriculture. The results were published in the *U.S. Climate Action Report-2002* as part of the United States' submission to the Framework Convention on Climate Change (FCCC). The previous evaluation was published in the *U.S. Climate Action Report-1997*. A 1997 audit by EPA's Office of the Inspector General concluded that the climate programs examined "used good management practices" and "effectively estimated the impact their activities had on reducing risks to health and the environment..."

Data Limitations: These are indirect measures of GHG emissions (carbon conversion factors and methods to convert material-specific reductions to GHG emissions reductions). Also, the voluntary nature of the programs may affect reporting. Further research will be necessary in order to fully understand the links between GHG concentrations and specific environmental impacts, such as impacts on health, ecosystems, crops, weather events, and so forth.

Error Estimate: These are indirect measures of GHG emissions. Although EPA devotes considerable effort to obtaining the best possible information on which to evaluate emissions reductions from voluntary programs, errors in the performance data could be introduced through uncertainties in carbon conversion factors, engineering analyses, and econometric analyses.

New/Improved Data or Systems: The Administration regularly evaluates the effectiveness of its climate programs through interagency evaluations. EPA continues to update inventories and methodologies as new information becomes available.

References: The U.S. Climate Action Report 2002 is available at: www.epa.gov/globalwarming/publications/car/index.html. The accomplishments of many of EPA's voluntary programs are documented in the Climate Protection Partnerships Division Annual Report. The most recent version is *The Power of Partnerships: Energy Star and Other Voluntary Programs*, Climate Protection Partnerships Division 2001 Annual Report, EPA 430-R-02-010, July, 2002, available at: <http://www.epa.gov/cpd/pdf/cpdann01.pdf>

FY 2004 Performance Measure: Annual Energy Savings

Performance Database: Climate Protection Partnerships Division Tracking System

Data Source: Data collected by EPA's voluntary programs include partner reports on facility specific improvements (e.g. space upgraded, kilowatt-hours (kWh) reduced), national market data on shipments of efficient products, and engineering measurements of equipment power levels and usage patterns.

Methods, Assumptions, and Suitability: Most of the voluntary climate programs' focus is on energy efficiency. For these programs, EPA estimates the expected reduction in electricity consumption in kilowatt-hours (kWh). Emissions prevented are calculated as the product of the kWh of electricity saved and an annual emission factor (e.g., MMTCE prevented per kWh). Other programs focus on directly lowering greenhouse gas emissions (e.g., Natural Gas STAR,

Landfill Methane Outreach, and Coalbed Methane Outreach); for these, greenhouse gas emission reductions are estimated on a project-by-project basis. EPA maintains a "tracking system" for energy reductions.

Energy bill savings are calculated as the product of the kWh of energy saved and the cost of electricity for the affected market segment (residential, commercial, or industrial) taken from the Energy Information Administration's (EIA) *Annual Energy Outlook 2002* and *Annual Energy Review 2000* for each year in the analysis (1993-2012). Energy bill savings also include revenue from the sale of methane and/or the sale of electricity made from captured methane. The net present value (NPV) of these savings was calculated using a 4-percent discount rate and a 2001 perspective.

QA/QC Procedures: EPA devotes considerable effort to obtaining the best possible information on which to evaluate energy savings from its voluntary programs.

Data Quality Review: The Administration regularly evaluates the effectiveness of its climate programs through interagency evaluations. The second such interagency evaluation, led by the White House Council on Environmental Quality, examined the status of U.S. climate change programs. The review included participants from EPA and the Departments of State, Energy, Commerce, Transportation, and Agriculture. The results were published in the *U.S. Climate Action Report-2002* as part of the United States' submission to the Framework Convention on Climate Change (FCCC). The previous evaluation was published in the *U.S. Climate Action Report-1997*. A 1997 audit by EPA's Office of the Inspector General concluded that the climate programs examined "used good management practices" and "effectively estimated the impact their activities had on reducing risks to health and the environment..."

Data Limitations: The voluntary nature of programs may affect reporting. In addition, errors in the performance data could be introduced through uncertainties in engineering analyses, and econometric analyses.

Error Estimate: Although EPA devotes considerable effort to obtaining the best possible information on which to evaluate emissions reductions from voluntary programs, errors in the performance data could be introduced through uncertainties in engineering analyses and econometric analyses.

New/Improved Data or Systems: The Administration regularly evaluates the effectiveness of its climate programs through interagency evaluations. EPA continues to update inventories and methodologies as new information becomes available.

References: The U.S. Climate Action Report 2002 is available at: www.epa.gov/globalwarming/publications/car/index.html. The accomplishments of many of EPA's voluntary programs are documented in the Climate Protection Partnerships Division Annual Report. The most recent version is *The Power of Partnerships: Energy Star and Other Voluntary Programs*, Climate Protection Partnerships Division 2001 Annual Report, EPA 430-R-02-010, July, 2002, available at: <http://www.epa.gov/cpd/pdf/cpdann01.pdf>

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risks

Objective: Protect Public Health and Ecosystems from PBTs and other Toxics.

By 2006, reduce the risks to ecosystems and human health, particularly in Tribal and other subsistence-based communities, from persistent, bioaccumulative toxicants (PBTs) and other selected toxins which circulate in the environment on global and regional scales.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Protect Public Health and Ecosystems from PBTs and other Toxics.	\$5,391.1	\$6,173.6	\$6,680.7	\$507.1
Environmental Program & Management	\$5,391.1	\$6,173.6	\$6,680.7	\$507.1
Total Workyears	31.8	35.6	36.4	0.8

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Facilities Infrastructure and Operations	\$495.4	\$515.9	\$619.2	\$103.3
Global Toxics	\$1,522.8	\$1,415.1	\$1,557.1	\$142.0
Global Trade Issues for Pesticides and Chemicals	\$3,091.2	\$3,125.4	\$3,367.1	\$241.7
Great Lakes	\$537.6	\$0.0	\$0.0	\$0.0
Legal Services	\$382.4	\$410.7	\$428.8	\$18.1
Management Services and Stewardship	\$31.5	\$26.2	\$41.2	\$15.0
POPs Implementation	\$0.0	\$680.3	\$667.3	(\$13.0)

implement new environmental laws and regulations or significantly revise existing laws and regulations. Through in-country assistance to EPA counterpart organizations, EPA will assist in developing and implementing improved laws and regulations. Projects in support of this effort will likely focus on transferring U.S. experience in the development of sound regulatory regimes and associated policies on permitting and penalty assessment. EPA will also work to increase public participation in the promulgation of environmental regulations, as public participation can encourage greater transparency in enforcement and reporting. EPA will also work with key partners to develop public awareness campaigns which facilitate the implementation of new regulations.

As part of another ongoing cooperative effort with USAID, the Agency will also work to improve the regulatory framework in Central America. EPA will assist Central American countries in developing regionally-comparable environmental standards, improving their application and enforcement of environmental regulations, and increasing their ability to comply with international environmental agreements. Work under this regional program will focus largely on pesticide management, wastewater management systems, and municipal waste management. FY 2004 will mark the third year in this six-year effort.

FY 2004 Change from FY 2003 Request

EPM

- (-\$482,900, 5.8 FTE) redirection of resources to give greater emphasis to new environmental plan for the Mexico Border (Goal 6 Objective 1) and capacity efforts for implementation of the Stockholm Convention on Persistent Organic Pollutants. The redirection will reduce the level of effort directed towards strengthening environmental management to countries in transition and developing countries.
- (+\$109,700, 0.4 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*
- There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: REDUCTION OF GLOBAL AND CROSS-BORDER ENVIRONMENTAL RISKS

OBJECTIVE: INCREASE DOMESTIC AND INTERNATIONAL USE OF CLEANER AND MORE COST-EFFECTIVE TECHNOLOGIES.

Annual Performance Goals and Measures

Enhance Institutional Capabilities

- In 2004 Enhance environmental management and institutional capabilities in priority countries.
- In 2003 Enhance environmental management and institutional capabilities in priority countries.
- In 2002 All aspects of this Annual goal were met doing mid-year. Our efforts over the year lead to 2 countries committing to the phase-out of leaded-gasoline. Targeted countries in the Caribbean and in Asian completing the 1st phases of their commitments to the POPs conventions with PCB inventories.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Assist in the development or implementation of improved environmental laws or regulations in priority countries.		1	1	countries
Increase the transfer of environmental best practices among the U.S. and its partner countries and build the capacity of developing countries to collect, analyze, or disseminate environmental data.		3	3	countries
Increase the capacity of programs in Africa or Latin America to address safe drinking water quality issues.		1		countries
Baseline:	Sound data collection and analysis facilitates improved environmental legislation, enforcement and planning. EPA is helping to build capacity to collect, analyze and disseminate environmental data for use in priority developing countries to more effectively target resources for environmental protection.			

Verification and Validation of Performance Measures

Validating measurements under international capacity-building programs presents several challenges. Technical assistance projects, for instance, typically target developing countries, which often do not have sound data collection and analysis systems in place. Several of the Agency's activities under Goal 6, Objective 5 attempt to improve this data gathering and analysis process. Non-technical projects, such as assistance in regulatory reform, frequently must rely on more subjective measures of change, such as the opinions of project staff or reviews by third-party organizations, including other U.S. government organizations, in judging the long-term efficacy of the assistance provided. Data verification and validation for each of the key measures under Objective 5 are discussed below.

FY 2004 External Performance Measure: Assist in the development or implementation of improved environmental laws or regulations in developing countries.

Performance Database: None. Output measure. Manual collection of information to track measure.

Data Source: Project Specific

QA/QC Procedures: Verification does not involve any pollutant database analysis, but will require objective assessment of: (1) tasks completed, (2) compliance with new regulation, and (3) progress toward project goals and objectives.

EPA works with developing countries to improve environmental laws and regulations. Tracking development and implementation of legislation presents few challenges because EPA project staff maintain close contact with their counterparts and any changes become part of a public record. Assessing the quality of the new or revised laws/regulations, the level of public participation and support for stronger regulations, and the long-term social impacts of legislation is more subjective. Aside from feedback from Agency project staff, EPA relies, in part, on feedback from its counterparts in the target countries and regions and from nongovernmental organizations (NGOs) and other third parties in gauging the efficacy its international legal and regulatory capacity-building. Because EPA works to establish long-term relationships with priority countries, the Agency is often able to assess environmental improvement in these countries and regions for a number of years following legal assistance efforts.

FY 2004 External Performance Measure: Through the CEC, develop a core set of children's environmental health indicators and economic valuation report of children's environmental health by September 2004.

Performance Database: None. Output measure. Manual collection of information to track measure.

Data Source: Project Specific

QA/QC Procedures: Verification does not involve any pollutant database analysis, but will require objective assessment of tasks completed and consensus by the Commission for Environmental Cooperation's (CEC) children's environmental health trilateral team.

Coordination with Other Agencies

EPA's environmental mandate and expertise make it uniquely qualified to represent the nation's environmental interests abroad. While the Department of State (DOS) is responsible for the conduct of overall U.S. foreign policy, implementation of particular programs, projects, and agreements is often the responsibility of other agencies with specific technical expertise and resources. Relations between EPA and DOS cut across several offices and/or bureaus in both organizations. Similarly, EPA and the many components of the Department of Commerce work together closely on a range of different issues, including many science and technology issues. For example, EPA is responsible for implementing activities under the Export Enhancement Act of 1992. The Act mandated EPA participation on the Environmental Trade Working Group of the Trade Promotion Coordinating Committee, an interagency working group chaired by the Secretary of Commerce to coordinate the government's overall environmental trade promotion activities.

EPA also serves as the primary point-of-contact and liaison with the U.S. Agency for International Development (USAID). Specially drawing on expertise from throughout EPA, the Agency administers a number of interagency agreements for environmental assistance.

EPA works extensively with the Office of the U.S. Trade Representative (USTR), particularly its Office of Environmental and Natural Resources, to ensure that U.S. trade and environmental policies are mutually supportive. For example, through the Agency's participation in the negotiation of both the North American Free Trade Agreement and the World Trade Organization Agreements, EPA has worked with USTR to ensure that U.S. obligations under international trade agreements do not hamper the ability of Federal and state governments to maintain high levels of domestic environmental protection. The two agencies also work together to ensure that EPA's rules, regulations and programs are consistent with U.S. obligations under international trade agreements.

Finally, EPA works closely with a number of other Federal agencies with environmental, health, or safety mandates. These include (among others) the Department of Labor, Department of Transportation, Department of Agriculture, Department of the Interior, Department of Health and Human Services, and the Food and Drug Administration.

Statutory Authorities

EPCRA section 313 (42 U.S.C. 11023)

PPA (42 U.S.C. 13101-13109)

World Trade Organization Agreements

North American Free Trade Agreement

North American Agreement on Environmental Cooperation

US-Canada Agreements

The Boundary Waters Treaty of 1909

1987 Great Lakes Water Quality Agreement

1997 Canada-U.S. Great Lakes Bi-national Toxics Strategy

pregnancy and followed throughout childhood and adolescence. This study was mandated in the Children's Health Act of 2000 to study environmental influences on children's health and development.

The National Center for Toxicological Research (NCTR) supports fundamental research on the effects of chemicals regulated by the Food and Drug Administration. Although some of the models used by NCTR may be similar to those used by EPA, the chemicals and regulatory context vary significantly. Historically, NCTR has been a leader in developing models and principles for risk assessment, which has led to collaborations between EPA and NCTR scientists.

Statutory Authority

Clean Air Act (CAA)

Safe Drinking Water Act (SDWA)

Clean Water Act (CWA)

Toxics Substances Control Act (TSCA)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

Resources Conservation and Recovery Act (RCRA)

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

Superfund Amendments Reauthorization Act (SARA)

Food Quality Protection Act (FQPA)

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Sound Science, Improved Understanding of Env. Risk and Greater Innovation to Address Env. Problems

Objective: Enhance Capabilities to Respond to Future Environmental Developments.

Enhance EPA's capabilities to anticipate, understand, and respond to future environmental developments; conduct research in areas that combine human health and ecological considerations; and enhance the Agency's capacity to evaluate the economic costs and benefits and other social impacts of environmental policies.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Enhance Capabilities to Respond to Future Environmental Developments.	\$61,427.7	\$50,965.8	\$68,911.4	\$17,945.6
Environmental Program & Management	\$10,877.7	\$10,008.5	\$11,027.1	\$1,018.6
Science & Technology	\$50,550.0	\$40,957.3	\$57,884.3	\$16,927.0
Total Workyears	169.2	152.6	166.7	14.1

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Congressionally Mandated Projects	\$3,753.8	\$0.0	\$0.0	\$0.0
Endocrine Disruptor Research	\$10,353.1	\$11,806.5	\$11,538.8	(\$267.7)
Facilities Infrastructure and	\$2,267.8	\$2,177.2	\$2,758.3	\$581.1

Statutory Authorities

Clean Air Act (CAA) and amendments

Environmental Research, Development and Demonstration Act (ERDDA)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

Toxic Substances Control Act (TSCA)

Food Quality Protection Act (FQPA) of 1996

Safe Drinking Water Act (SDWA) and amendments

Toxic Substances Control Act, sections 4, 5, and 6 (15 U.S.C. 2603, 2604, and 2605)

Clean Water Act sections 304 and 308 (33 U.S.C. 1312, 1314, 1318, 1329-1330, 1443)

Safe Drinking Water Act section 1412 (42 U.S.C. 210, 300g-1)

Resource Conservation and Recovery Act/HSWA: (33 U.S.C. 40(IV)(2761), 42 U.S.C. 82(VIII)(6981-6983))

Clean Air Act: 42 U.S.C. 85(I)(A)(7403, 7412, 7429, 7545, 7612)

Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. 103(III)(9651)

Pollution Prevention Act (42 U.S.C. 13101-13109)

Federal Technology Transfer Act

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Sound Science, Improved Understanding of Env. Risk and Greater Innovation to Address Env. Problems

Objective: Improve Environmental Systems Management.

Provide tools and technologies to improve environmental systems management while continuing to prevent and control pollution and reduce human health and ecological risks originating from multiple economic sectors.

**Resource Summary
(Dollars in Thousands)**

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Improve Environmental Systems Management.	\$54,429.8	\$52,274.1	\$45,446.9	(\$6,827.2)
Environmental Program & Management	\$5,418.2	\$2,706.1	\$3,270.6	\$564.5
Hazardous Substance Superfund	\$419.5	\$2,468.0	\$743.0	(\$1,725.0)
Science & Technology	\$48,592.1	\$47,100.0	\$41,433.3	(\$5,666.7)
Total Workyears	145.1	146.6	143.0	-3.6

**Key Program
(Dollars in Thousands)**

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Congressionally Mandated Projects	\$13,512.1	\$0.0	\$0.0	\$0.0
Environmental Technology Verification (ETV)	\$3,607.7	\$3,617.6	\$3,682.0	\$64.4
Facilities Infrastructure and	\$2,290.0	\$2,084.0	\$2,352.3	\$268.3

Federal Insecticide, Fungicide, and Rodenticide Act

Resource Conservation and Recovery Act

Superfund Amendments Reauthorization Act

Clean Air Act Amendments of 1990

Pollution Prevention Act of 1990

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Sound Science, Improved Understanding of Env. Risk and Greater Innovation to Address Env. Problems

Objective: Quantify Environmental Results of Partnership Approaches.

Increase partnership-based projects with counties, cities, states, tribes, resource conservation districts, and/or bioregions, bringing together needed external and internal stakeholders, and quantify the tangible and sustainable environmental results of integrated, holistic, partnership approaches.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Quantify Environmental Results of Partnership Approaches.	\$9,276.2	\$9,058.4	\$9,036.8	(\$21.6)
Environmental Program & Management	\$9,276.2	\$9,058.4	\$9,036.8	(\$21.6)
Total Workyears	20.6	18.0	16.6	-1.4

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Congressionally Mandated Projects	\$700.0	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and Operations	\$215.6	\$241.9	\$222.6	(\$19.3)
Legal Services	\$47.3	\$53.3	\$55.4	\$2.1
Management Services and Stewardship	\$100.6	\$112.1	\$3.1	(\$109.0)

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Sound Science, Improved Understanding of Env. Risk and Greater Innovation to Address Env. Problems

Objective: Incorporate Innovative Approaches.

Incorporate innovative approaches to environmental management into EPA programs, so that EPA and external partners achieve greater and more cost-effective public health and environmental protection.

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Incorporate Innovative Approaches.	\$26,070.7	\$29,787.9	\$31,939.0	\$2,151.1
Environmental Program & Management	\$25,720.7	\$29,787.9	\$31,939.0	\$2,151.1
Science & Technology	\$350.0	\$0.0	\$0.0	\$0.0
Total Workyears	112.9	126.7	127.4	0.7

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Common Sense Initiative	\$1,838.7	\$0.0	\$0.0	\$0.0
Congressionally Mandated Projects	\$1,000.0	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and Operations	\$1,784.4	\$1,821.7	\$2,143.8	\$322.1
Legal Services	\$380.3	\$409.3	\$427.1	\$17.8

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Effective Management

Objective: Manage for Results Through Services, Policies, and Operations.

Demonstrate leadership in managing for results by providing the management services, administrative policies, and operations to enable the Agency to achieve its environmental mission and to meet its fiduciary and workforce responsibilities and mandates.

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Manage for Results Through Services, Policies, and Operations.	\$176,749.8	\$201,230.9	\$198,525.6	(\$2,705.3)
Environmental Program & Management	\$147,699.4	\$164,431.9	\$169,323.4	\$4,891.5
Hazardous Substance Superfund	\$28,207.5	\$35,352.7	\$27,899.6	(\$7,453.1)
Leaking Underground Storage Tanks	\$663.6	\$1,194.4	\$1,073.3	(\$121.1)
Oil Spill Response	\$6.2	\$53.2	\$52.5	(\$0.7)
Science & Technology	\$173.1	\$198.7	\$176.8	(\$21.9)
Total Workyears	1,325.3	1,243.1	1,181.2	-61.9

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Environmental Finance Center Grants (EFC)	\$2,000.0	\$2,000.0	\$2,000.0	\$0.0
Facilities Infrastructure and Operations	\$50,675.0	\$54,819.0	\$55,131.4	\$312.4

protocols, use of common interface functional capabilities, and management of communications with internal or external systems) early in the process. Additionally, it reduces the complexity/risks associated with the implementation of the Financial COTS on several accounts:

- The Financial COTS implementation team is no longer concerned with establishing or determining how interfaces to and from the system will be accomplished (i.e., separation of concerns).
- The Financial COTS team needs only to develop a single interface to the enterprise “hub” through a standard method and process. It does not need to create multiple interfaces to multiple systems using methods and processes that could prove to be incompatible with each other.
- Should the implementation of the Financial COTS take longer than expected, EPA would have already achieved a higher level of integration and ease of interface maintainability among its legacy systems, thus effectively extending the lifecycle of its legacy systems.
- Early implementation of the Financial Data Warehouse (FDW) project addresses current and short-term financial reporting needs of EPA early in the lifecycle. In addition, early implementation of FDW allows Administrative Data Warehouse (ADW) to evolve at a steady and non-constrictive pace.
- Later implementation of the Cost Recovery and Imaging project allows EPA ample time to analyze those EPA unique and critical cost recovery requirements not supported by the Financial COTS. Results of this analysis may result in streamlined cost recovery processes jointly supported by the Financial COTS and Cost Recovery and Imaging applications.
- Extended pre-implementation timeframes for the Financial COTS provide a greater degree of certainty that the selected Joint Financial Management Improvement Program (JFMIP) certified financial package will more closely meet EPA’s requirements.
- Extended implementation timeframes for the ADW provide a greater degree of certainty that ADW components will not require reengineering. ADW components are implemented only after the source application (e.g., Financial COTS, Cost Recovery and Imaging) is fully operational. The Payroll application will be the first to be integrated into the ADW as its implementation is completed first.
- Implementation of Planning is scheduled to provide sufficient time to have the application in place and fully implemented for use during the budget formulation process, which begins on March 1, 2005.

OCFO Activity	Specific Actions	Drivers
1. Improve Financial Performance	<ul style="list-style-type: none"> • Automate internal processes to reduce costs internally and within the Federal government by disseminating best practices across agencies • Support compliance with Federal laws and regulations • Support the operating, policy, and budget decision-making through improved timeliness • Streamline financial transactions and reengineering processes using best business practices • Expand the use of web-based technologies • Improve management of obligations to the Federal government by continuing to improve debt collection practices • Institute quarterly financial statements • Accelerate end of year reporting • Measure system compliance with agency ability to meet OMB and Treasury requirements 	<ul style="list-style-type: none"> • The President's Management Agenda (PMA) • OMB Circular A-127, JFMIP, GPRA, FFMA, and FASAB • PMA • The Federal Financial Management 5 Year Plan and PMA • PMA • The Federal Financial Management 5 Year Plan
2. Improve Financial Service to the Customer	<ul style="list-style-type: none"> • Create easy-to-find single points of access to government services for individuals • Ensure IT investments minimize the redundancy and maximize the integration within an agency, as well as maximizing the interoperability between agencies • Develop financial management systems that provide timely, useable, reliable, and accessible financial information and reports to increase accountability and improve decision making and program management • Provide tools and reports that enable managers to budget and assess the full cost of programs and activities. • Offer common administrative services to achieve efficiencies and reduce cost • Explore electronic processing options for Grants • Streamline grant payment delivery • Support government-wide efforts to manage grant funds online through a common web site • Support government-wide electronic business processes, such as e-procurement • Re-engineer reporting processes and expand the use of web-based technologies 	<ul style="list-style-type: none"> • PMA • ITMRA, PMA • The Federal Financial Management 5 Year Plan • PMA and FASAB Standards • The Federal Financial Management 5 Year Plan • PMA • CFO Council • PMA • PMA • PMA
3. Maintain a Secure Financial System Environment	<ul style="list-style-type: none"> • Maintain a secure systems environment • Undertake a Public Key Infrastructure (PKI) to promote digital signatures for transactions within the Federal government • Integrate cost-effective security into government information systems to enable, and not unnecessarily impede, Agency business operations 	<ul style="list-style-type: none"> • The Federal Financial Management 5 Year Plan • PMA • Executive Order on Critical Infrastructure Protection in the Information Age dated October 16, 2001

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Effective Management

Objective: Provide Audit, Evaluation, and Investigative Products and Services

Provide audit, evaluation, and investigative products and advisory services resulting in improved environmental quality and human health.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Provide Audit, Evaluation, and Investigative Products and Services	\$52,802.2	\$53,592.7	\$56,793.0	\$3,200.3
Environmental Program & Management	\$6,587.0	\$4,290.0	\$5,233.2	\$943.2
Hazardous Substance Superfund	\$10,984.9	\$13,977.7	\$14,752.1	\$774.4
Inspector General	\$35,230.3	\$35,325.0	\$36,807.7	\$1,482.7
Total Workyears	359.7	372.3	371.9	-0.4

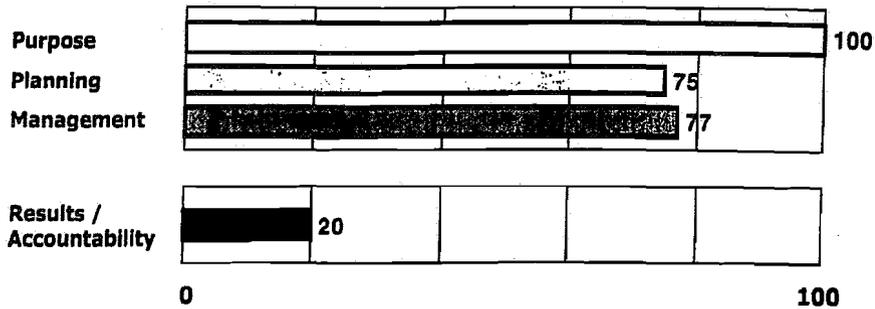
Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Assistance Agreement Audits	\$2,000.0	\$0.0	\$0.0	\$0.0
Assistance Agreement Investigations	\$2,900.0	\$0.0	\$0.0	\$0.0
Contract Audits	\$5,200.0	\$0.0	\$0.0	\$0.0
Contract and Procurement Investigations	\$3,100.0	\$0.0	\$0.0	\$0.0
Employee Integrity Investigations	\$1,000.0	\$0.0	\$0.0	\$0.0

Program: Air Toxics

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



- Results Achieved
- Results Not Demonstrated
- Measures Adequate
- New Measures Needed

Key Performance Measures

Year Target Actual

Long-term Measure: Percent of U.S. population free from unacceptable risks of cancer and other significant health problems from air toxic emissions	2020	95	
Annual Measure: Percentage reduction in nationwide air toxics emissions from stationary and mobile sources combined (actual data available later in 2003)	2002	5	
	2001	5	
	2000	3	
	1999	12	
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

The Air Toxics program is designed to reduce emissions of hazardous air pollutants (HAPs), such as hexane and benzene, from stationary sources, such as factories, and from vehicles.

The program's purpose is clearly laid out in the statute -- to reduce HAP emissions and unacceptable health risk from HAPs. The assessment showed that management is generally good. However, EPA has not fully utilized statutory flexibilities when implementing parts of the program. Although the long-term cancer reduction goal is clearly outcome-related, "unacceptable risk" is not defined, the relation between emissions changes and actual health outcomes are not known, and there are no efficiency measures. Specific findings include:

1. There is a clear purpose and design for the program.
2. The program has not shown it is maximizing net benefits, and proposing the most cost effective regulations.
3. There are inadequate linkages between annual performance and long-term goals that prevent it from demonstrating its impact on human health.
4. There are large data gaps for toxicity and on actual population exposure.

In response to these findings, the Administration will:

1. Increase funding for toxic air pollutant programs by \$7 million in State grants for monitoring to help fill data gaps.
2. Focus on maximizing programmatic net benefits and minimizing the cost per deleterious health effect avoided.
3. Establish better performance measures (including an appropriate efficiency measure).

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)

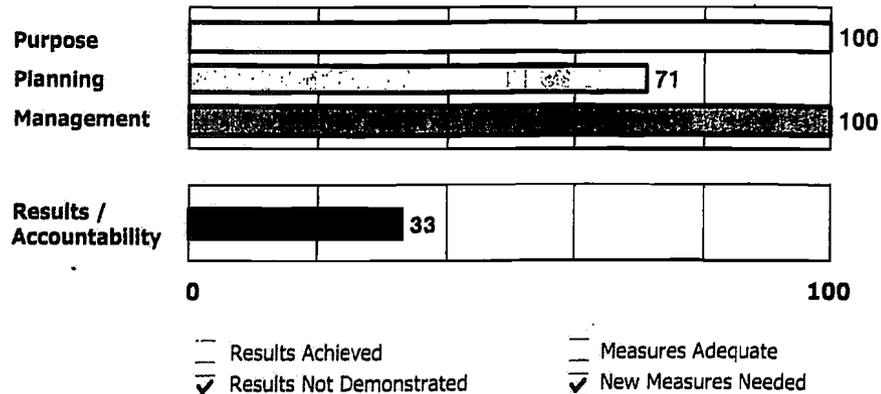
Program Funding Level (in millions of dollars)

2002 Actual	2003 Estimate	2004 Estimate
115	118	125

Program: Civil Enforcement

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

Long-term Measure: Measure under development			
Annual Measure: Millions of pounds of pollutants reduced by eliminating discharges through enforcement activities	2001	350	660
	2002	300	
	2003	300	
	2004	350	
Efficiency Measure: Dollars negotiated per workyear from polluters for Supplemental Environmental Projects that restore, protect or improve the environment	1999		17,000
	2000		
	2001		27,000

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

EPA's civil enforcement program enforces federal environmental laws to protect human health and the environment by ensuring that regulated entities comply with these laws. EPA's management of their federal enforcement responsibility includes direct federal action (inspections, investigations, compliance assistance and incentives) as well as assisting and overseeing state, tribal, and local partners in achieving compliance to protect human health and the environment.

Findings from the PART assessment include the following:

1. The program lacks adequate outcome oriented performance measures. This impacts both program planning and results. With better outcome performance measures, program planning could be adjusted to achieve more effective results.
2. Outside evaluators have criticized the program for: a) lack of adequate workload analysis to support existing staffing and priorities, and b) lack of good quality data to accurately determine compliance and monitor the effectiveness of enforcement activities.

In response to these findings the Administration will:

1. Fund \$5 million for an improved compliance data system.
2. Revise EPA's strategic plan with a focus on defining EPA's federal enforcement role and appropriate outcome performance measures.

Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
433	439	469

Program: Drinking Water State Revolving Fund

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency, activities

Rating: Results Not Demonstrated

Program Type: Formula/Block Grants

Program Summary:

The Drinking Water State Revolving Fund program capitalizes state revolving loan funds that finance infrastructure improvements for public water systems and other activities that support state drinking water programs and promote public health protection. Most of the money has gone to upgrade water treatment plants.

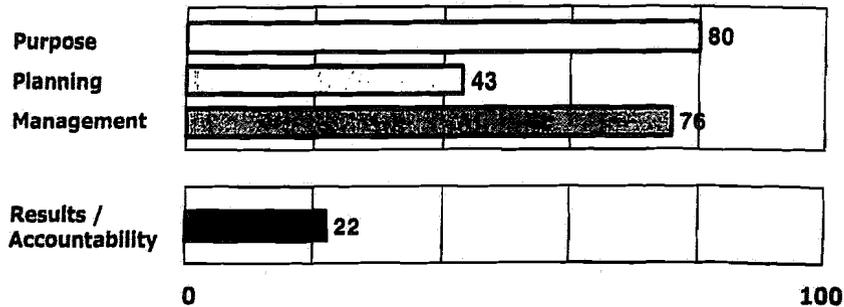
The PART indicated that the Drinking Water SRF program is very competent as a national financial resource for state infrastructure projects targeted at compliance with health-based drinking water standards. A challenge facing the Drinking Water SRF program is to develop measurable long-term and annual performance goals that link the program to its public health mission. Additional findings include:

1. The program purpose is clear and it is designed to have a significant impact on a well identified need, although, there are other federal, state and private resources available to address the problem.
2. Evaluation of public health impacts from infrastructure improvements is difficult, in part because states provide only aggregate data.

In response to these findings, the Administration will:

1. Continue capitalization of the Drinking Water SRF at the 2003 President's Budget level because, although target revolving levels for the fund have been reached, continued federal support will close the recently identified gap in funding capital infrastructure needs for the next twenty years. The extended commitment proposed in the President's 2004 Budget is expected to provide \$45 billion for loans and assistance through the State Drinking Water SRFs, which will support over 21,000 new projects.
2. Develop new performance measures to be included in EPA's 2004 GPRA plan to better demonstrate the impact of the program.

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)



- Results Achieved
- Results Not Demonstrated
- Measures Adequate
- New Measures Needed

Key Performance Measures

Year Target Actual

Measure	Year	Target	Actual
Long-term Measure: Percent of population served by community water systems in compliance with health-based drinking water standards	2001	91	91
	2003	92	
	2005	95	
Annual Measure: Measure under development			
Efficiency Measure: Measure under development			

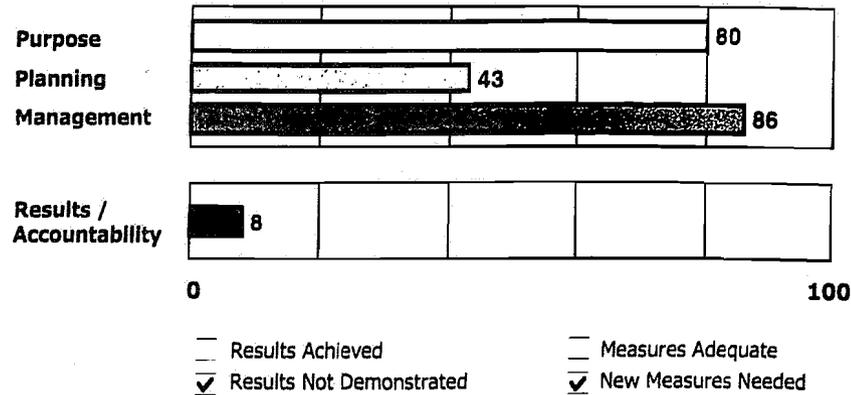
Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
850	850	850

Program: Existing Chemicals

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

Measure	Year	Target	Actual
Long-term Measure: Measure under development			
Annual Measure: Percent reduction in current year production-adjusted Risk Screening Environmental Indicators (RSEI) chemical risk based Index (New measure)	2002	3	
	2003	4	
	2004	2	
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

EPA reviews and regulates chemical substances and mixtures that may harm human health or the environment. EPA's Existing Chemicals program covers the 62,000 chemicals that were already in commerce when Congress enacted the Toxic Substances Control Act, including testing, regulation, and reporting.

The assessment found:

1. The program has strong purpose and management. The program, however, lacks strategic planning.
2. The program cannot demonstrate any long-term impact. EPA's long-term goal does not focus on outcomes and lacks a baseline and clear time frames. The program also does not have an efficiency measure.
3. The program has demonstrated few results. EPA has reviewed approximately two percent of existing chemicals. GAO found that EPA has been slow to address these chemicals.
4. The law requires that EPA compile industry data, which can be costly and time-consuming.
5. EPA's current annual performance goals cannot be assessed because data are not available until two years into the future.

In response to these findings, the Administration will:

1. Provide \$1 million above the 2003 President's Budget to develop acute exposure chemical guidelines (AEGs). AEGs are important for homeland security response, recovery, and preparedness. AEGs represent three tiers of health effects (discomfort, disability, death) for five exposure durations (eight hours or less). This funding will help EPA to obtain more information on the possible harm to humans and the environment from chemicals, which will help the Agency to achieve a higher level of accountability and results.
2. Establish better performance measures, including efficiency measures.

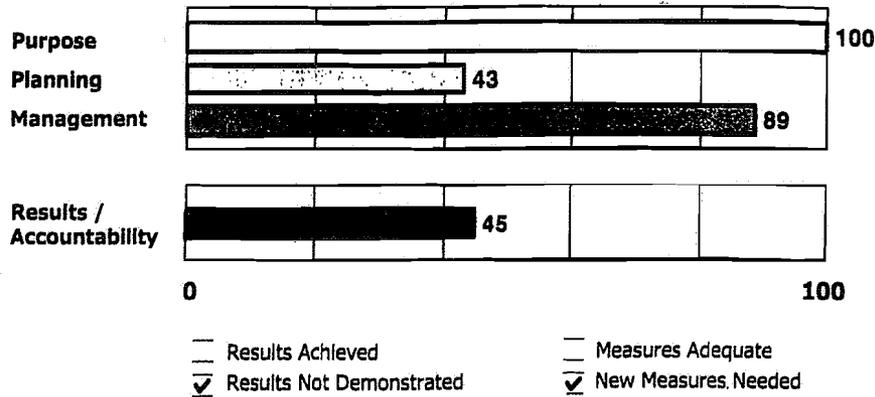
Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
11	12	13

Program: Leaking Underground Storage Tanks

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

Long-term Measure: Measure under development			
Annual Measure: Leaking underground storage tank cleanups completed New annual outcome measures being developed	2000	21,000	20,834
	2001	21,000	19,074
	2002	21,000	
	2003	20,000	
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Formula/Block Grants

Program Summary:

The purpose of the Leaking Underground Storage Tank program is to clean up leaking underground petroleum tanks.

The assessment showed that:

1. The program purpose, to clean up leaking underground storage tanks, is clearly defined and is understood by states and other stakeholders.
2. The program is well managed, but would benefit from regular independent evaluations and a systematic process to review strategic planning.
3. Strategic planning is particularly critical to this program since it has already achieved its current long term goal and has no new long-term goal to challenge program managers. EPA may finish the backlog of 140,000 cleanups within the next decade. In the future, a smaller program may be suitable to address the lesser number of new releases that occur every year.
4. The program appears to be successful, as evidenced by achieving the goals of its authorizing legislation: cleanup of releases and upgrading tanks. However, the program scores poorly on the results section since it has no outcome based performance metrics that demonstrate an impact on people and the environment.

In response to these findings, the Administration will:

1. Continue to clean storage tank sites at a rapid pace.
2. Develop outcome measures that will test the link between the activities of the program and the impact on human health and the environment.

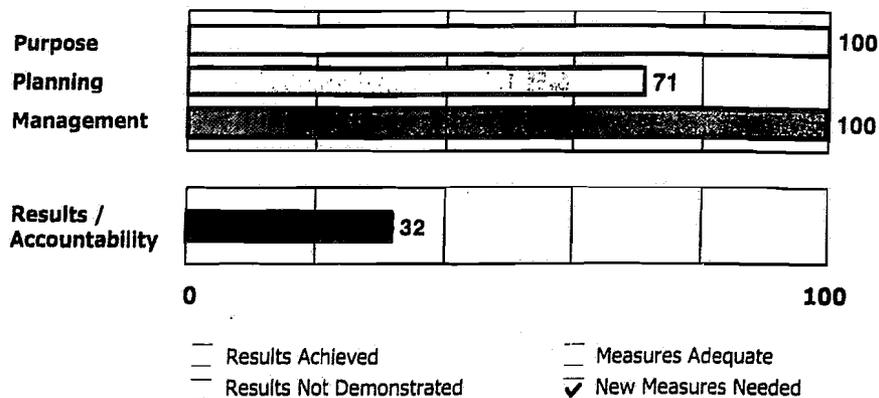
Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
73	72	73

Program: New Chemicals

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

Long-term Measure: Reduction of hazardous substances from products and processes in millions of pounds (Targets under development)	2007	250	
Annual Performance Goal: Annual quantity of hazardous substances eliminated through the Green Chemistry Challenge Awards Program from 1996 levels, in millions of pounds	2001		150
	2004	150	
Efficiency Measure: Measure under development			

Rating: Adequate

Program Type: Direct Federal

Program Summary:

EPA's New Chemicals program reviews new chemicals being introduced into commerce (manufactured or imported) to prevent possible harm to the public and environment.

The assessment found:

1. The program has very strong purpose and management.
2. The program collaborates with the Department of Labor on worker protection controls and has a cooperative agreement with Florida State University to identify and develop improved environmental indicators and program performance measures.
3. While the program has to some extent shown results, the main deficiency is the lack of adequate long-term measures. The measures are not outcomes, do not have clear targets and do not include at least one efficiency measure.
4. The PART exercise, however, has resulted in serious attention by the program to develop long-term goals for the program that can demonstrate results for human health and/or the environment.

In response to these findings, the Administration will:

1. Maintain funding at the 2003 President's Budget level.
2. Recommend improvement of the program's strategic planning, including an independent evaluation of the program, which can result in significant improvement of program results.
3. Establish more outcome-oriented measures including at least one efficiency measure.

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)

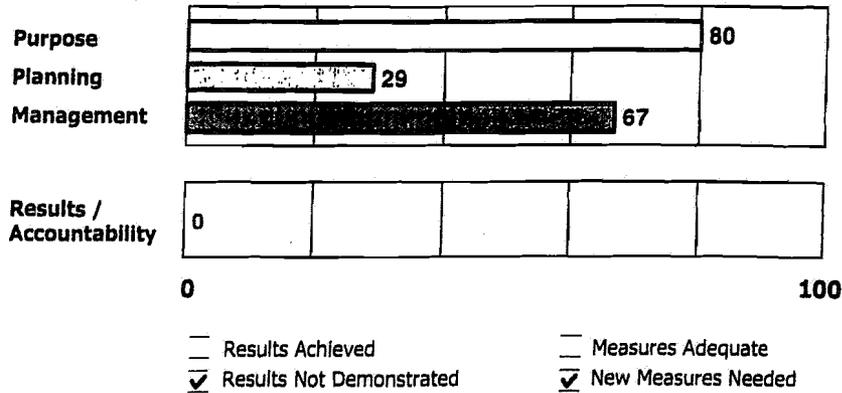
Program Funding Level (In millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
14	15	15

Program: Nonpoint Source Grants

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

Long-term Measure: Current measure achieved New measures under development			
Annual Measure: Measures under development			
Efficiency Measure: Measures under development			

Rating: Results Not Demonstrated

Program Type: Formula/Block Grants

Program Summary:

EPA's nonpoint source grants program, authorized by Section 319 of the Clean Water Act, gives money to States to reduce water pollution caused by nonpoint source runoff.

The analysis found that:

1. The program purpose is clear and agreed upon by interested parties.
2. The program has not collected sufficient performance information to determine whether it has had a significant effect on pollution.
3. The program's greatest weaknesses are strategic planning and a lack of measurable program results. Consequently, the program lacks adequate long-term, annual, and efficiency measures. Existing annual measures, such as "Number of states reporting on progress in implementing nonpoint source programs" do not provide useful, results-based performance information. The program's previous long-term goal has been met, and the agency has not yet developed a new one.
4. The program is in the process of developing new performance measures that focus on outcomes and efficiency.
5. EPA has made significant improvements to program management over the past several years, which will assist in their efforts to develop new performance measures. For example, in 2002 EPA implemented a new grants tracking system with additional reporting requirements. Through this new system, EPA will be able to see the estimated reductions in sediment and nutrient loads associated with each project implementation, as well as project geolocation.
6. The program overlaps with others in rural areas, such as the Department of Agriculture's Environmental Quality Incentives Program (EQIP) and Conservation Reserve Program.

In response to these findings, and to reduce overlap with similar Department of Agriculture programs that received significant funding increases in the Farm Bill (EQIP goes from \$200 million in 2002 to \$800 million in 2004), the Budget proposes to:

1. Shift the program's focus in agricultural watersheds from implementation of pollution reduction projects to planning, monitoring and assisting in the coordination and implementation of watershed-based plans in impaired and threatened waters.
2. Establish more outcome-focused measures and at least one efficiency measure.

Program Funding Level (in millions of dollars)

2002 Actual	2003 Estimate	2004 Estimate
237	238	238

Program: Pesticide Registration

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

The Pesticide Registration program at EPA evaluates new pesticides and registers them for use in the United States. EPA examines the ingredients of the pesticide, how it will be used, as well as storage and disposal practices to ensure that, when used properly, the pesticide will not have any adverse effects on humans or the environment.

The assessment indicates that the program addresses an important nationwide interest and that further work is needed in the area of performance measurement. Specific findings include:

1. The program has a clear mission and statutory authority, and it provides for the safe use of pesticides on a nationwide basis.
2. The program has established long-term goals but they are not adequate because the goals lack quantified baselines and/or performance targets and they need to be more outcome-focused.
3. The program regularly reviews overall progress toward annual goals and does make management decisions to address issues that impede progress.
4. The program does not use efficiency or cost effectiveness metrics to monitor program management or performance.
5. Generally the program has met its annual goals but it is unclear how achieving these annual targets leads to quantifiable progress toward the program's long-term goals. One new long-term efficiency goal that targets reductions in decision-making time has been proposed for this program by EPA, but further work is needed to finalize the goal and to develop appropriate annual targets to support it.

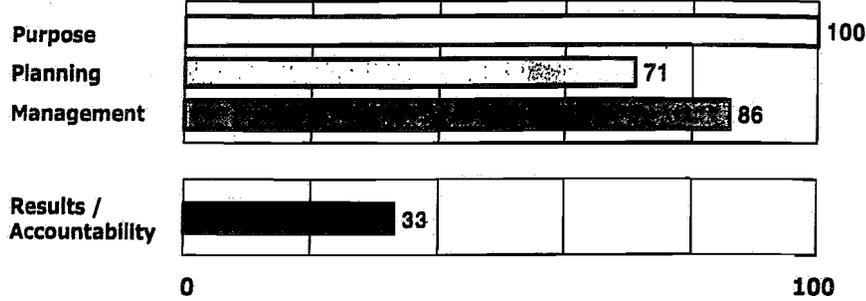
In response to these findings, the Administration will:

1. Implement appropriate long-term measures.
2. Develop adequate efficiency and cost effectiveness measures to improve program performance and goal-setting.

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)

Program Funding Level (in millions of dollars)

2002 Actual	2003 Estimate	2004 Estimate
45	44	48



- Results Achieved
- Results Not Demonstrated
- Measures Adequate
- New Measures Needed

Key Performance Measures

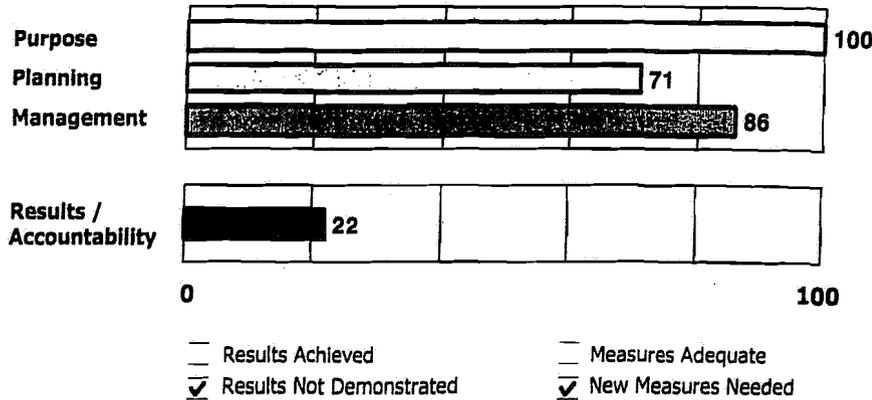
Year Target Actual

	Year	Target	Actual
Long-term Measure: Measure under development			
Annual Measure: Number of new reduced risk active ingredients registered	2001	11	11
	2002	10	15
	2003	13	
	2004	13	
Long-term Efficiency Measure: Measure under development			

Program: Pesticides Reregistration

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency, activities



Key Performance Measures

Year Target Actual

Measure	Year	Target	Actual
Long-term Measure: Measure under development			
Annual Measure: Percent of Reregistration Eligibility Decisions (REDs) completed A RED document summarizes the reregistration conclusions and outlines any risk reduction measures necessary for the pesticide to continue to be registered in the U.S.	2001	72.4	71.6
	2002	76.4	72.7
	2003	83	
	2004	88	
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

The Pesticide Reregistration program reviews pesticides already registered by EPA to make sure they meet current scientific and regulatory standards. The reregistration process considers the human health and ecological effects of pesticides and can result in changes to existing registrations to reduce risks that are of concern.

The assessment indicates that the program addresses an unambiguous quantifiable need and that further work is needed in the areas of efficiency evaluation and performance measurement. Specific findings include:

1. The program is the only entity that reviews existing pesticides to ensure they keep pace with advancing safety standards. The program has a clear mission and statutory authority.
2. The program has established long-term goals but they are not adequate because the goals lack quantified baselines and/or targets and because they need to be more outcome-focused.
3. The program regularly reviews progress toward annual goals and does make management decisions to address issues that impede progress but the program does not use efficiency or cost effectiveness measures to monitor program management and performance.
4. EPA has proposed a long-term efficiency goal for this program that targets reductions in decision-making time but further work is needed to finalize the goal and to develop appropriate annual targets to support it.
5. The program has met statutory deadlines but does not always meet annual goals and it is unclear how achieving annual targets leads to quantifiable progress toward the program's long-term goals. Progress toward future deadlines will require additional work on antimicrobial pesticides.

As a result of this review, the Administration:

1. Recommends providing an additional \$1.0 million for antimicrobial pesticides and \$0.5 million for inerts reregistration activities.
2. Will implement appropriate long-term performance measures, improved annual targets, and adequate long and short term efficiency measures.

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)

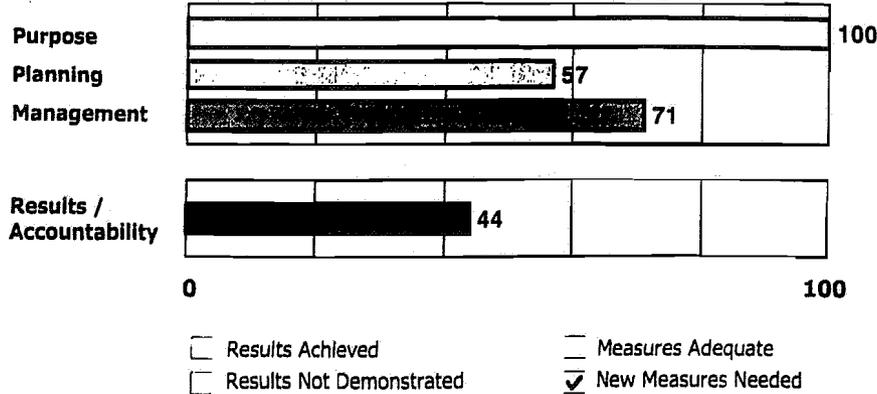
Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
45	48	52

Program: Superfund Removal

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

Measure	Year	Target	Actual
Long-term Measure: Measure under development			
Annual Measure: Number of removals completed	2001	300	302
	2002	275	426
	2003	350	
	2004	350	
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

Superfund's Removal Program is a short term cleanup program to remediate emergency and non-emergency situations in two years or less.

The assessment showed that:

1. The program's purpose, to perform emergency cleanup of hazardous materials, is very clearly defined and understood by states and stakeholders.
2. The program would benefit from regular independent evaluations and a systematic process to review strategic planning.
3. The program meets its targets for number of removals each year, an output measure. However, the program scores poorly on the Results/Accountability section since it has no outcome based performance metrics that demonstrate the extent of the impact on public health and the environment.
4. There are no efficiency measures and the development requires overcoming significant data issues, namely, poor historic data quality in EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database.

In response to these findings, the Administration will:

1. Propose funding at the 2003 President's Budget level.
2. Develop outcome oriented measures that test the linkage between program activities and the impact on human health and the environment.
3. Improve data quality in the CERCLIS database.

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)

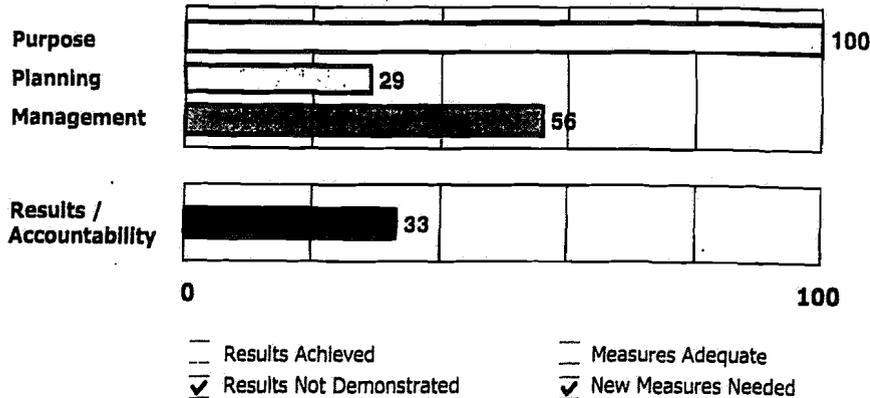
Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
203	203	203

Program: Tribal General Assistance

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

Measure	Year	Target	Actual
Long term Measure: Measure under development			
Annual Measure: Percent of tribes with delegated and non-delegated environmental programs (New measure, targets under development)			
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Formula/Block Grants

Program Summary:

The Indian Environmental General Assistance Program (GAP) provides grants to federally recognized Native American tribes and eligible Intertribal consortia to improve their ability to administer environmental regulatory programs.

The analysis found that:

1. The program's purpose is very clear and agreed upon by interested parties. Not all tribes currently have the financial resources and technical ability to develop and implement Federal environmental programs on their own.
2. Strategic planning is the program's weakest area, and plans from 2003 and earlier had weak performance goals that focused on processes more than environmental outcomes.
3. In recognition of these weaknesses, EPA has been working to develop new long-term goals and efficiency measures.
4. The program also adopted new annual performance measures, which more accurately reflect the program's purpose and activities.
5. GAP has improved its program management over the last year. It implemented a new grants management system which provides better information on grantee activities, and it also developed a tribal database which holds environmental, cultural, and administrative information on each of the tribes.

As a result of these findings, the Administration recommends:

1. Increasing GAP funding to \$62.5 million, \$5 million above the 2003 President's Budget level of \$57 million, in recognition that program management is improving.
2. That EPA use the new information from the recently implemented grants management system to further improve the program's strategic planning and management, including the development of long-term goals and efficiency measures.

Program Funding Level (in millions of dollars)

2002 Actual	2003 Estimate	2004 Estimate
52	57	62

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Introduction/Overview

**Environmental Protection Agency
2004 Annual Performance Plan and Congressional Justification**

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Introduction and Overview

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EPA's Mission

The mission of the Environmental Protection Agency (EPA) is to protect human health and safeguard the natural environment--air, water, and land--upon which life depends.

EPA's Goals

EPA currently has a series of ten strategic, long-term Goals in its Strategic Plan. In combination with EPA's core principles, these goals define the Agency's planning, budgeting, analysis, accountability, and implementation processes.

- **Clean Air:** The air in every American community will be safe and healthy to breathe. In particular, children, the elderly, and people with respiratory ailments will be protected from health risks posed by polluted air. Reducing air pollution will also protect the environment by restoring life in damaged ecosystems, reducing health risks to those who subsist on those ecosystems, and yield many other benefits.
- **Clean and Safe Water:** The American public will have drinking water that is clean and safe to drink. Effective protection of America's rivers, lakes, wetlands, aquifers, coastal and ocean waters will support wildlife as well as recreational, subsistence, and economic activities. Watersheds and their ecosystems will be restored and protected to provide wildlife habitat, reduce flooding, and enhance water quality thus improving public health.
- **Safe Food:** The food that the American public eats will be free from unsafe pesticide residues. Particular attention will be given to protecting subpopulations that may be more susceptible to adverse effects of pesticides or have higher dietary exposures to pesticide residues. These subpopulations include children and individuals with diets that include large amounts of noncommercial foods.
- **Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces, and Ecosystems:** Pollution prevention and risk management strategies aimed at eliminating, reducing, or minimizing emissions and contamination will result in cleaner and safer environments. EPA will safeguard ecosystems and promote the health of natural communities, integral components of this nation's quality of life.
- **Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response:** America's wastes will be stored, treated, and disposed of in ways that prevent harm to people and the natural environment. EPA will work to clean up previously polluted sites, restore them to levels appropriate for surrounding communities, and respond to and help prevent waste-related or industrial accidents.
- **Reduction of Global and Cross-Border Environmental Risks:** The United States will collaborate with other nations in successful, multilateral efforts to reduce significant risks to human health and ecosystems from climate change, stratospheric ozone depletion, and other hazards of international concern.

- **Quality Environmental Information:** At all levels, the public and decision makers will have access to quality information about environmental conditions and human health to make informed decisions and help assess community environmental health. The public will also have access to educational and information services and tools that provide for the reliable and secure exchange of quality environmental information.
- **Sound Science, Improved Understanding of Environmental Risk, and Greater Innovation to Address Environmental Problems:** EPA will develop and apply the best available science to address current and future environmental hazards and develop new approaches to improved environmental protection.
- **A Credible Deterrent to Pollution and Greater Compliance with the Law:** EPA will ensure full compliance with laws intended to protect human health and the environment.
- **Effective Management:** By managing for results, EPA will maintain the highest-quality standards for environmental leadership, effective internal management, and fiscal responsibility.

Organization of the Annual Performance Plan and Budget

The Agency's Commitment to Link Planning and Budgeting

The Agency's approach to annual planning under the Government Performance and Results Act (GPRA) is based on a full integration of strategic planning, annual planning, budgeting, and accountability. The organization of EPA's FY 2004 Annual Plan and Budget Request reflects the Agency's continuing commitment to link planning and budgeting in a coherent, integrated process. This integrated Annual Plan and Budget promotes fiscal accountability through a connection between resources and outcomes.

The Annual Plan and Budget presents the Agency's Goals and Objectives, and identifies the resource levels and activities associated with them. For each Objective, the Budget sets forth a set of annual performance goals and performance measures. These goals and measures represent intermediate, measurable levels of performance needed to achieve the Agency's Objectives contained in the Agency's five-year Strategic Plan, which was submitted to Congress in September 2000. The Agency will continue to work with partners and stakeholders to take into account our performance over the past years, and lay out new and innovative tools and approaches to advance our progress in environmental protection.

Annual Plan Components

All of the components of the Annual Plan are contained within the Budget. To fully explain the Agency's resource needs, the Budget contains a single set of externally reported annual performance goals and performance measures. The Agency submits a stand-alone Annual Plan to Congress to meet the legislative concern expressed in GPRA that "annual plans not be voluminous presentations describing performance for every activity. The annual plan and reports are to inform, not overwhelm the reader." (See the Special Analysis section of this document for the Annual Performance Plan components.)

Annual Performance Plan and Congressional Justification Organization:

Resource Tables

The resource tables provide a broad overview of the resources that the Agency is requesting for FY 2004 by Goal, Objective, and Appropriation.

Goal Chapters include:

- **Background and Context:** Sets the broad context for the Goal and briefly explains why the Goal is of National importance.
- **Resource Summary:** Provides a broad overview of the resources for FY 2004 by Goal, Objective, and Appropriation. (The dollar amounts in these and other tables may not add due to independent rounding.)

- **Means and Strategy:** Broadly describes the Agency's approach to achieving the strategic Goal.
- **Highlights:** Provides an overview of major activities and programs that contribute to achieving the Goal.
- **Strategic Objectives and Annual Performance Goals:** Includes all the Objectives under each Goal, and links those Objectives to FY 2004 Annual Performance Goals.
- **External Factors:** Addresses the external-Agency factors, such as participation in environmental programs by state and local governments and other stakeholders, or economic and technological factors that may enhance or impede progress toward achieving environmental goals.

Objective Sections Include:

- **Objective Statement:** Objectives are a critical part of the planning and budgeting process, and they respond to the GPRA requirement to plan achievable Objectives. Each Objective supports the attainment of a specific Goal.
- **Resource Summary:** Reports resources by Appropriation account for the Objective.
- **Key Programs:** Reports resources for Key Programs, which are Agency programs contributing to the Objective. Resources listed under an Objective may not represent the total Key Program resources, as a Key Program may be involved in more than one Objective.
- **FY 2004 Request:** These narratives describe specific Agency functions and the operational processes, as well as the human, capital and technological resources required to meet the performance goals.
- **FY 2004 Change from FY 2003:** Describes major changes, by appropriation account, in programmatic funding within the Objective.
- **Annual Performance Goals:** Annual Performance Goals are central to measuring progress toward achieving Objectives. They are quantifiable standards, values, or rates against which actual achievement can be compared. They help establish the connection between longer-term objectives and the day-to-day activities in the Agency's programs and will be used by managers to determine how well a program or activity contributes to accomplishing objectives. In the Objective sections of this Annual Plan and Budget, performance information is provided for three years: FY 2002 - FY 2004. This Annual Plan and Budget also contains a section providing performance information for six years, FY 1999 - FY 2004, to fulfill the Office of Management and Budget requirement to show six years of performance information.
- **Performance Measures:** Performance Measures provide the means for determining the extent to which annual goals and multi-year objectives are being achieved and whether

efficiency is being improved. As such, they are essential to program evaluations that help to guide the Agency's strategic planning. As with the Annual Performance Goals, this Annual Performance Plan and Congressional Justification include Performance Measure data for three years.

- **Verification and Validation of Performance Measures:** This section describes how Performance Measure data are verified and validated. It includes a description of the source of performance measure data, as well as procedures for quality assurance. It may also include information on the methodology of data collection and review.
- **Coordination with Other Agencies:** This section describes partnerships with other Federal and state agencies, which are crucial to the success of EPA's environmental programs.
- **Statutory Authority:** This section cites the public law that gives the Agency legal authority to carry out the Objective.

Annual Performance Goals and Measures

This section provides performance information for six years: Actual accomplishments for FY 1999 through FY 2001, the estimated performance based on the FY 2002 enacted budget, and performance estimates based on the budget requests for FY 2003 and FY 2004.

Special Analyses

This final section of the Annual Performance Plan and Congressional Justification includes:

- **Major Management Issues:** Describes the nature of EPA's most pressing management problems, actions taken, and progress to date in addressing the major management challenges faced by the Agency.
- **Key Programs:** Reports totals for Agency Key Programs, across Goals and Objectives. As noted above, Key Program resource data represents 100% of the Agency's budget.
- **Annual Performance Plan Components:** Indicates the *Annual Plan* components of the Annual Performance Plan and Congressional Justification.
- **User Fees:** Describes the Agency's user fee programs. User fees are currently authorized as the proposed collection of fees charged to Agency customers, which cover the cost of selected permitting, testing, registration, and approval actions.
- **Working Capital Fund:** Provides information on the Working Capital Fund, a revolving fund authorized by law to finance a cycle of operations, where the costs of goods and services provided are charged to the Agency users on a fee-for-service basis.

- **State and Tribal Assistance Grants:** Provides tables on STAG components, categorical grants, and statutory authorities for the STAG appropriation.

Relationship between the Annual Performance Plan and the Strategic Plan

The Annual Performance Plan makes no substantive changes (not previously noted) to the Agency's Strategic Plan, which was submitted to Congress in September 2000.

Relationship between Budgeted Resources and Annual Performance Goals and Measures

Annual Performance Goals are related to the resource levels contained in each Objective. Annual Performance Goals for FY 2004 in this Annual Performance Plan are based upon the resource levels in the Agency's FY 2004 budget request levels. However, resources may contribute not only to the budget year's Annual Performance Goals, but also to the accomplishment of Goals in future years. For example, a performance goal to complete a number of Superfund site cleanups, or develop research methods and models, generally requires a period longer than one year. Thus, FY 2004 activities will contribute to completion of work in FY 2004 or beyond. Likewise, some FY 2004 Annual Performance Goals are achievable only with funding provided in prior years.

Given this multi-year characteristic of some of the resources requested, it is not always possible to establish direct linkages between the budget requested for a particular year and the achievement of all performance goals for that year. Nevertheless, when developing regulatory impact analyses or justifications for programs and legislation, EPA regularly makes estimates that link activities by EPA, states, tribes, regulated communities, and citizens to outcomes by some future date. In doing so, EPA estimates not only its costs but also society's costs (of which EPA's is a subset) to achieve health and environmental benefits of clean air, clean water, or better handling and disposal of hazardous chemicals. The Agency is able to leverage its resources to achieve such benefits as avoiding excess cancer risk, premature mortalities, asthma-related hospital visits, mitigation of crop losses, and loss of visibility in our National Parks.

Annual Plan and Budget Overview

The EPA's FY 2004 Annual Plan and Budget requests \$7.6 billion in discretionary budget authority and 17,850 Full Time Equivalents (FTE). This budget request supports the Agency's core programs and implementation of critical components of the President's Management Agenda. Additionally, this request emphasizes the importance of adequate resources and vision necessary to reach our nation's environmental goals. Resources also support the Agency's efforts to work with its partners toward cleaner air, purer water, and better-protected land, as well as providing for EPA's role in safeguarding the American people from terrorist acts. The request also supports the Administration's commitment to setting high environmental protection standards, while focusing on results and performance, and achieving goals outlined in the President's Management Agenda.

Implementation of the President's Management Agenda is a major focus of the Agency's FY 2004 budget request. EPA has identified major efforts to accelerate its progress in "getting to green" in all five initiatives: Budget and Performance Integration, Improved Financial Performance, Expanding E-Government, Competitive Sourcing, and Strategic Management of Human Capital. The Agency's plans are described throughout this justification. The Office of Management and Budget (OMB) rated progress "green" in all five areas.

Strengthening Base Environmental Programs

This Annual Plan and Budget submission demonstrates EPA's commitment to our principal objectives—safeguarding and restoring America's air, water, and land resources—by strengthening and refining our base environmental programs. This budget supports the President's Clear Skies Initiative, an aggressive plan to cut power plant emissions by 70 percent. Such emissions cuts will be an essential component of improving air quality and thus human health. Additionally, EPA's budget request places a strong emphasis on core water programs to improve our water management framework, program implementation, and information sharing. To help states and tribes fill critical gaps in fulfillment of their Clean Water Act responsibilities, this budget increases funding to states, tribes, and interstate agencies. EPA's plan also requests a \$150 million increase for Superfund remedial cleanup costs.

Fostering Stronger Partnerships

The Agency is committed to building and enhancing effective partnerships. To do so, this budget provides \$210.7 million, \$10 million above last year's funding, for Brownfields. As one of the Administration's top environmental priorities and a key to restoring contaminated sites to productive use, the Brownfields program will draw on these additional resources to enhance state and Tribal response programs. By protecting land and revitalizing contaminated sites throughout the US, EPA continues to expand efforts to foster healthy and economically sustainable communities and attract new investments to rejuvenated areas. This budget also requests increased funds over the FY 2003 President's Request for the Federal enforcement workforce. The Agency will maximize compliance and achieve environmental results through targeted inspections and enforcement, by responding to public and other complaints, and enhancing field presence to address environmental law violators. In FY 2004 EPA will conduct

a study to assess environmental service delivery systems, including EPA's National Environmental Performance Partnership System.

Enhancing Strong Science

Sound science is a fundamental component of EPA's work. The Agency has long relied upon science and technology to help discern and evaluate threats to human health and the natural environment. Much of our decision-making, policy, and regulatory successes stem from reliance on quality scientific research aimed at achieving EPA's environmental goals. This budget increases funding for modernization and expansion of the Integrated Risk Information System (IRIS)--a database of human health effects that result from exposure to various environmental substances. Our proposal also allocates additional resources to research America's sensitive populations, including children and the elderly. In addition, EPA is requesting resources for the newly established Science Advisor. The Science Advisor will be responsible for ensuring the availability and use of the best science to support Agency policies and decisions, as well as advise EPA's administrator on decisions. The Agency is also taking a number of steps to attract and maintain a high quality, diverse scientific workforce to improve the use of science in EPA's regional offices.

Cleaner Air

The Clear Skies initiative draws on EPA's experience to modernize the Clean Air Act. Using a market-based approach, the Clear Skies Initiative will dramatically cut power plants' emissions of three of the most significant air pollutants--SO₂, nitrogen oxides (NO_x), and mercury. Reductions in SO₂ and NO_x emissions will also reduce airborne PM_{2.5}. EPA's approach builds upon the success of the acid rain cap-and-trade program created by Congress in 1990. The Clear Skies initiative will achieve substantially greater reductions in air pollution from power plants more quickly and with more certainty than the existing Clean Air Act. The initiative requires mandatory cuts of SO₂, NO_x, and mercury (Hg) by an average of 70% from today's levels, and ensures that these levels are achieved and sustained through caps on emissions. Despite these reductions, some states will need to implement further measures to meet National Ambient Air Quality Standards (NAAQS). To help states and localities develop cost-effective strategies, EPA also will need to provide assistance to states to implement reductions.

The number of people living in areas with monitored ambient ozone concentrations below the NAAQS for the one-hour ozone standard will increase by 1% (relative to 2003) for a cumulative total of 20% (relative to 1992).

In FY 2004, EPA will assist states, tribes and local governments in devising additional stationary and mobile source strategies to reduce ozone, particulate matter, and other pollutants.

The Agency will develop strategies and rules to help states and tribes reduce emissions and exposure to hazardous air pollutants, particularly in urban areas, and reduce harmful deposition in water bodies. A key to achieving the Clean Air Goal is \$235.6 million included in this budget for air grants that support states and tribes.

Air toxics emissions nationwide from stationary and mobile sources combined will be reduced by an additional 2% of the updated 1993 baseline of 6.0 million tons for a cumulative reduction of 37%.

EPA's air research program will continue to provide a strong scientific basis for and policy and regulatory decisions and exploring emergency problem areas.

Addressing Climate Change

This budget request includes \$130.0 million to meet the Agency's climate change objectives by working with business and other sectors to deliver multiple benefits – from cleaner air to lower energy bills – while improving overall scientific understanding of climate change and its potential consequences. The core of EPA's climate change efforts are government/industry partnership programs designed to capitalize on the tremendous opportunities available to consumers, businesses, and organizations to make sound investments in efficient equipment and practices. These programs help remove barriers in the marketplace, resulting in faster deployment of technology into the residential, commercial, transportation, and industrial sectors of the economy. EPA's Global Change Research Program supports one of six Administration FY 2004 Interagency Research and Development Priorities - Climate Change Science and Technology. EPA will continue research in this area in FY 2004 to address Climate Change Science Program (CCSP) needs.

Greenhouse gas emissions will be reduced from projected levels by approximately 81 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.

Purer Water

Since enactment of the Clean Water Act (CWA) and Safe Drinking Water Act (SDWA) three decades ago, government, citizens, and the private sector have worked together to make dramatic improvements in the quality of surface waters and drinking water supplies. Despite improvements in water quality nationwide, serious water pollution and drinking water problems, including nonpoint source pollution, still exist.

- **Strengthening Water Core Programs.** In FY 2004 the Agency will place a strong emphasis on core water programs--monitoring and assessment, standard setting, watershed planning, and implementation (i.e., NPDES and drinking water). Through investments in core water programs, EPA hopes to remedy significant environmental problems and boost environmental performance by:

- Working with the states to enhance their monitoring and assessment programs, with an emphasis on a probabilistic, science-based approach in assessing water quality, increasing the number of waters directly measured, and unifying Federal, state, and local monitoring efforts.

Water quality will improve on a watershed basis such that 625 of the nation's 2,262 watersheds will have greater than 80 percent of assessed waters meeting all water quality standards, up from 500 watersheds in 1998.

- Assisting states and tribes in ensuring that water quality standards are effective and appropriate for use in developing Total Maximum Daily Loads (TMDLs).

- Increasing the pace of TMDL development and working with states to assure implementation of already approved TMDLs, including targeting CWA Section 319 nonpoint source funding.

92 percent of the population served by the community water systems will receive drinking water meeting all health-based standards in effect as of 1994, up from 83 percent in 1994. 85 percent of the population served by community water systems will receive drinking water meeting health-based standards promulgated in or after 1998.
- Assisting states in ensuring that facilities required to have permits are covered by current and effective permits that include all conditions needed to ensure water quality protection.
- Strengthening the drinking water implementation program to maintain effective state and Tribal programs and to achieve the enhanced level of public health protection established in 1998 and later drinking water rules.
- Enhancing regulation of vessel discharges and pollution, developing ballast water standards for aquatic nuisance species, and bolstering its ocean dumping responsibilities regarding site evaluation, designation, monitoring, permit review, and concurrence.
- Protecting Wetlands. In 2001, the Supreme Court determined that some isolated waters and wetlands are not regulated under the Clean Water Act. Millions of acres of waters are no longer protected under Clean Water Act Section 404. EPA is proposing to provide an increase of \$5 million in grants to states and tribes to help them protect these waters as part of comprehensive programs that will achieve no net loss of wetlands.
- Great Lakes Legacy Act. In support of the Great Lakes Legacy Act, EPA is requesting \$15 million in funding for contaminated sediment cleanup activities. In 2004, the Agency plans to begin cleanup on two to three new sites that will lead to the remediation of over 100,000 cubic yards of contaminated sediments. Some of this funding will also be used for assessment and analysis, resulting in additional cleanups.
- Helping States Address Nonpoint Source Pollution. The new Farm Bill provides EPA and the states an opportunity to accelerate national efforts to control nonpoint source pollution. EPA and state water quality agencies will work closely and cooperatively with USDA, conservation districts, and others to combine our strengths. Using CWA Section 319 dollars, states will focus more of their efforts on providing the monitoring and watershed-planning support needed by the agricultural community to target their work most effectively on the highest-priority water quality needs. In addition, states will also increase their focus upon nonpoint source activities that are not funded under the Farm Bill (e.g., urban runoff, forestry, abandoned mines, and a variety of stream and stream bank restoration activities).

- Extending the Federal Commitment to the Clean Water and Drinking Water State Revolving Funds (SRFs). The President's Budget proposes to fund the Clean Water SRF at \$850 million through 2011 and increase the long-term revolving level by \$800 million to \$2.8 billion, a 40 percent increase over the previous goal. This extended funding of \$4.4 billion is projected to close the \$21 billion gap between current capital funding levels and future water infrastructure capital needs estimated by EPA. EPA also proposes to fund the Drinking Water SRF at \$850 million through 2018 so it can revolve at \$1.2 billion per year, an increase of 140% over the previous goal of \$500 million.
- Safe Drinking Water in Puerto Rico. Less than 20% of the people in Puerto Rico receive drinking water that meets all health-based standards. As a first step toward improved public health protection, the Agency requests \$8 million to design necessary infrastructure improvements to Metropolitan, Puerto Rico. When these infrastructure improvements are completed, EPA estimates that about 1.4 million people will enjoy safer, cleaner drinking water.
- Drinking Water Research. To strengthen our ability to characterize and manage risks to human health posed by exposure to waterborne pathogens and chemicals, the Agency has established an integrated, multi-disciplinary research program in the areas of exposure, health effects, risk assessment, and risk management. The FY 2004 budget request directly supports SDWA priorities, including: 1) research on sensitive subpopulations, adverse reproductive outcomes and other potential health effects of drinking water contaminants; 2) studies on disinfection by-products (DBPs), arsenic, complex mixtures, and the occurrence of waterborne disease in the U.S.; and 3) development of methods to improve water treatment and maintain water quality in the distribution system.
- Water Quality Research. The water quality research program will demonstrate integrated and stakeholder driven approaches to achieving water quality goals, as well as: 1) focus on the development of watershed diagnostic methods; 2) focus on understanding the importance of critical habitats; 3) focus on the impacts of habitat alteration on aquatic communities; and 4) support the development of ecological criteria, providing the scientific foundation to support Total Maximum Daily Loads (TMDLs).

Better Protected Land

Cleaning Up Toxic Waste

Superfund at Work. This budget continues a commitment to clean up toxic waste sites with \$1.39 billion for Superfund. This budget request includes \$150 million over the FY 2003 President's Budget to address an additional 10-15 construction projects at Superfund sites across the nation. The Agency will also work to maximize the participation of responsible parties in site cleanups while promoting fairness in the enforcement process. EPA will continue the progress we have made in cleaning up toxic waste sites while protecting public health and returning land to productive use. As of December 29, 2002, EPA completed all final cleanup plans at over 1,000 Superfund National Priority List (NPL) sites, undertaken over 7,300 removals at hazardous waste sites to immediately reduce human health and environmental threats, assessed over 44,400 sites, and removed more than 33,100 sites from the national toxic

waste site list to help promote the economic redevelopment of these properties. The waste research program continues to support the Agency's objective of reducing or controlling potential risks to human health and the environment at contaminated waste sites by accelerating scientifically-defensible and cost-effective decisions for cleanup at complex sites, mining sites, marine spills, and Brownfields in accordance with CERCLA.

- Revitalizing Local Economies and Creating Jobs Through Brownfields Cleanup and Redevelopment. The FY 2004 budget request includes \$210.7 million for the Brownfields program. The \$10 million increase in state grants will support the redevelopment and revitalization of Brownfields communities by providing funding for additional assessments at hazardous waste and petroleum-contaminated properties and for voluntary state cleanup programs. The Brownfields program will continue to promote local cleanup and redevelopment of industrial sites, returning abandoned land to productive use and bringing jobs to blighted areas.

Strong Science

The FY 2004 budget supports EPA's efforts to further strengthen the role of science in decision-making by using sound scientific information and analysis to help direct policy and establish priorities. Using the

The Agency will verify 35 commercial-ready air, water, greenhouse gas, and monitoring technologies, and provide this information to States, technology purchasers, and the public.

Administration's Research and Development Criteria (relevance, quality, and performance), the Agency will achieve maximum environmental and health protections by employing the highest quality scientific methods, models, tools, and approaches. This budget request includes \$607 million to develop and apply strong science to address both current and future environmental challenges. The budget request supports a balanced research and development program designed to address Administration and Agency priorities, and meet the challenges of the Clean Air Act (CAA), the Safe Drinking Water Act (SDWA), the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Food Quality Protection Act (FQPA), and other environmental statutes. Important new or increased research efforts to reinforce environmental decision-making include computational toxicology (including genomics and bioinformatics), childhood cancer and asthma research, and environmental indicators research. All of these will allow EPA to measure progress in achieving cleaner air, safer water, and better protected land resources by assessing actual impacts on human health and ecological quality and will provide the foundation for the Agency's State of the Environment Report.

Broad-Based and Multi-Media Approaches

Agency-wide Information Technology Advances

The FY 2004 Budget reexamines our information technology challenges in order to support E-Government, an element of the President's Management Agenda.

Performance across the Agency will benefit from building and maintaining an Agency-wide infrastructure in terms of support to:

- Sound science and environmental decision-making;
- Web services addressing stakeholder and e-gov priorities; and,
- Consistent desktop access.

Environmental information plays a particularly significant role in EPA due to the Agency's reliance on scientific and analytical data and its need for close collaboration with external partners. EPA strives to provide the right information, at the right time, in the right format, to the right people. The Agency is adapting to the explosion of emerging technologies and the information management revolution that are enabling organizations to become more productive, more effective and timely in decision making, and service oriented. The challenge is to provide secure, reliable, and timely access to data and tools for internal and external stakeholders at the lowest possible cost.

In FY 2004, EPA will continue its development of the National Environmental Exchange Network. The Exchange Network is an electronic method of sharing environmental data using secure points of exchange, or

Forty-six States will use CDX as the means by which they routinely exchange environmental data with two or more EPA media programs or regions.

"Nodes." The Primary components of the Exchange Network are the National Environmental Information Exchange Network Grant Program and the Central Data Exchange (CDX). The grant program assists states and tribes in evaluating their readiness to participate in the Exchange Network, enhances their efforts to complete necessary changes to their information management systems to facilitate Exchange Network participation, and supports state information integration efforts. The grant program also will provide training and other technical assistance programs to assist states and tribes in developing and implementing the Exchange Network.

The CDX is the focal point for securely receiving, translating, and forwarding data to EPA's data systems--the electronic reporting gateway to the Agency's information network. The CDX satisfies the Government Paperwork Elimination Act mandates by providing the infrastructure necessary to implement electronic signature and electronic filing of mandated EPA reports. In FY 2004, the CDX infrastructure, a key component of the Exchange Network, will service 46 states and at least 2,000 private sector and local government entities. These facilities will use it to provide data to EPA electronically. By widely implementing an electronic reporting infrastructure, the CDX will reduce reliance on less efficient paper-based processes, thereby improving data quality, reducing reporting burden, and simplifying the reporting process.

In FY 2004 the Agency will continue the development of its Environmental Indicators Initiative (EII) in order to establish a set of performance indicators that measure environmental results. Environmental indicators are an important tool for simplifying, analyzing, and communicating information about environmental conditions and human health. EPA is in the process of identifying environmental indicators that will be used to produce a draft State of the Environment Report in FY 2003. EPA is also reviewing these indicators to identify gaps and set long-term priorities for the EII. These indicators are designed to measure the impact of human activities on the environment and associated health effects on communities and ecosystems.

Working with States for Effective, Sensible Enforcement

Many of the environmental improvements in this country during the past 30 years can be attributed to a strong set of environmental laws and EPA's efforts to ensure compliance with those laws through enforcement, compliance monitoring, compliance assistance, and compliance incentives. The combination of these tools, in cooperation with our regulatory partners, provides

a broad scope of actions designed to protect public health and the environment. State, Tribal and local governments bear much of the responsibility for ensuring compliance, and EPA works in partnership with them and other Federal agencies to promote environmental protection. The FY 2004 request includes an increase of 100 workyears over the FY 2003 President's Request to implement enforcement for states without delegated programs, for non-delegable programs such as Superfund, or for compliance assistance activities.

A strong enforcement program identifies and reduces noncompliance problems, assists the regulated community in understanding environmental laws and regulations, responds to complaints from the public, strives to secure a level economic playing field for law-abiding companies, and deters future violations.

The FY 2004 request will continue to support the regulated community's compliance with environmental requirements through voluntary compliance incentives and assistance programs. The Agency will provide information and technical assistance to the regulated community through the compliance assistance program to increase its understanding of all statutory or regulatory environmental requirements, thereby reducing risk to human health and the environment and gaining measurable improvements in compliance. The program will also continue to develop strategies and compliance assistance tools that will support initiatives targeted toward improving compliance in specific industrial and commercial sectors or with certain regulatory requirements.

Increase the regulated community's compliance with environmental requirements through their expanded use of compliance assistance. The Agency will continue to support small business compliance assistance centers and develop compliance assistance tools such as sector notebooks and compliance guides.

Ensuring Safe Food

The FY 2004 request includes \$151.6 million to meet implementation challenges of the Food Quality Protection Act (FQPA) of 1996 so that all Americans will continue to enjoy one of the safest and most affordable food supplies in the world. The Agency's implementation of FQPA focuses on new science-driven policies for pesticides review, seeks to encourage the development of reduced risk pesticides to provide an alternative to the older versions on the market, and to develop and deliver information on alternative pesticides/techniques and best pest control practices to pesticide users. The Agency is also working to help farmers' transition--without disrupting production--to safer substitutes and alternative farming practices. Reassessing existing tolerances ensures food safety, especially for infants and children, and ensures that all pesticides registered for use meet current health standards. This budget request also supports FQPA research. That research seeks to reduce uncertainties in risk assessment by developing tools to reduce reliance on default assumptions and support the development of new assessment methodologies.

By the end of 2004, EPA will reassess a cumulative 78% of the 9,721 pesticide tolerances required to be reassessed over ten years.

Homeland Security

The Environmental Protection Agency's FY 2004 Annual Plan and Budget requests \$123 million and 142 FTE to support the Agency's Homeland Security responsibilities in accordance with the Public Health Security and Bioterrorism Preparedness and Response Act of 2002, the National Strategy for Homeland Security, and Presidential Directives (PDD) 39, 62, 63. This request allows the Agency to continue providing leadership for the protection of the nation's critical water infrastructure while upgrading and improving our emergency response capabilities. In addition, EPA will conduct research and provide guidance and technical support for Federal, state, local governments, and other institutions in the areas of building decontamination, water security, and rapid risk assessment.

A Commitment to Reform and Results

The Agency is committed to achieving the Administration's management reform priorities for a government that is results-oriented, citizen-centered, and market-based. This Annual Plan and Budget represents a strong commitment to reduce regulatory burdens and streamline Agency operations, so that the Agency's focus is on positive and measurable environmental results while working more effectively with our partners and stakeholders. Since FY 1999, EPA has undertaken significant management reform by restructuring its budget to match the strategic goals and objectives of its strategic plan under the Government Performance and Results Act (GPRA). Since then, EPA has worked consistently to improve its ability to manage for results. The Agency's current management reform agenda fully supports the goals of the President's Management Agenda, and EPA has made demonstrable progress in carrying out the five government-wide initiatives as reflected in Executive Branch Scorecard updates and in delivering environmental results to our ultimate customer--the American people.

Resource Tables

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Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Appropriation Summary Budget Authority Full-Time Equivalents (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Environmental Program & Management			
Budget Authority	\$2,112,542.7	\$2,047,703.8	\$2,219,659.0 ✓
Full-time equivalents (FTE)	10,954.1	11,144.2	11,216.0
Envir. Program & Mgmt - Reim			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	37.8	1.5	1.5
Science & Technology			
Budget Authority	\$763,679.3	\$670,008.0	\$731,482.6 ✓
Full-time equivalents (FTE)	2,436.2	2,426.3	2,460.5
Science and Tech. - Reim			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	2.4	3.0	3.0
Building and Facilities			
Budget Authority	\$30,452.8	\$42,918.0	\$42,918.0 ✓
Full-time equivalents (FTE)	0.0	0.0	0.0
State and Tribal Assistance Grants			
Budget Authority	\$3,716,276.0	\$3,463,776.0	\$3,121,200.0
Full-time equivalents (FTE)	0.0	0.0	0.0
Leaking Underground Storage Tanks			
Budget Authority	\$76,938.8	\$72,313.0	\$72,545.4
Full-time equivalents (FTE)	71.7	80.3	80.3
Oil Spill Response			
Budget Authority	\$14,746.6	\$15,581.0	\$16,208.8
Full-time equivalents (FTE)	87.1	100.0	100.0
Oil Spill Response - Reimburse			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	9.2	0.0	0.0
FEMA REIM			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	17.5	0.0	0.0
Inspector General			
Budget Authority	\$35,230.3	\$35,325.0	\$36,807.7 ✓
Full-time equivalents (FTE)	267.5	271.6	271.6
Inspector General - Reim			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	0.2	0.0	0.0
Rereg. & Exped. Proc. Rev Fund			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	173.0	116.9	187.2
Hazardous Substance Superfund			
Budget Authority	\$1,529,121.4	\$1,272,888.2	\$1,389,715.8
Full-time equivalents (FTE)	3,348.1	3,321.0	3,346.7
Superfund Reimbursables			

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Appropriation Summary
Budget Authority
Full-Time Equivalents
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	91.4	83.5	83.5
Working Capital Fund - Reimb			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	94.2	99.7	99.7
Offsetting Receipts			
Budget Authority	\$0.0	(\$4,000.0)	(\$4,000.0)
Full-time equivalents (FTE)	0.0	0.0	0.0
Total			
Budget Authority	\$8,278,987.9	\$7,616,513.0	\$7,626,537.3
Full-time equivalents (FTE)	17,590.4	17,648.0	17,850.0

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Goal, Appropriation Summary Budget Authority Full-time Equivalents (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Clean Air			
Budget Authority	\$602,190.0	\$597,977.2	\$617,415.1
Full-time equivalents (FTE)	1,813.8	1,820.0	1,823.3
Environmental Program & Management			
Budget Authority	\$194,949.5	\$190,709.1	\$200,834.0
Full-time equivalents (FTE)	1,152.1	1,156.8	1,167.9
Science & Technology			
Budget Authority	\$174,211.8	\$174,662.0	\$176,979.0
Full-time equivalents (FTE)	661.6	663.2	655.4
State and Tribal Assistance Grants			
Budget Authority	\$233,028.7	\$232,584.6	\$239,600.0
Full-time equivalents (FTE)	0.0	0.0	0.0
Hazardous Substance Superfund			
Budget Authority	\$0.0	\$21.5	\$2.1
Full-time equivalents (FTE)	0.1	0.0	0.0
Clean and Safe Water			
Budget Authority	\$3,870,039.5	\$3,214,674.2	\$2,952,472.9
Full-time equivalents (FTE)	2,681.8	2,742.8	2,776.4
Environmental Program & Management			
Budget Authority	\$481,568.3	\$407,498.9	\$440,499.6
Full-time equivalents (FTE)	2,181.3	2,258.9	2,266.6
Envir. Program & Mgmt - Reim			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	14.5	0.0	0.0
Science & Technology			
Budget Authority	\$182,412.0	\$113,319.6	\$134,970.7
Full-time equivalents (FTE)	486.0	483.9	509.8
State and Tribal Assistance Grants			
Budget Authority	\$3,206,059.2	\$2,693,830.0	\$2,377,000.0
Full-time equivalents (FTE)	0.0	0.0	0.0
Hazardous Substance Superfund			

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Goal, Appropriation Summary Budget Authority Full-time Equivalents (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Budget Authority	\$0.0	\$25.7	\$2.6
Full-time equivalents (FTE)	0.0	0.0	0.0
Safe Food			
Budget Authority	\$113,098.3	\$109,814.6	\$119,011.5
Full-time equivalents (FTE)	781.3	770.1	785.0
Environmental Program & Management			
Budget Authority	\$98,751.3	\$95,443.0	\$102,793.2
Full-time equivalents (FTE)	549.5	585.0	531.1
Science & Technology			
Budget Authority	\$14,347.0	\$14,371.6	\$16,218.3
Full-time equivalents (FTE)	59.0	68.2	66.7
Rereg. & Exped. Proc. Rev Fund			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	172.8	116.9	187.2
Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems			
Budget Authority	\$323,441.9	\$326,651.9	\$346,340.6
Full-time equivalents (FTE)	1,174.7	1,193.9	1,188.9
Environmental Program & Management			
Budget Authority	\$200,028.3	\$196,437.3	\$211,032.9
Full-time equivalents (FTE)	1,010.2	1,034.1	1,037.5
Envir. Program & Mgmt - Reim			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	2.6	0.0	0.0
Science & Technology			
Budget Authority	\$24,826.1	\$27,843.6	\$27,850.1
Full-time equivalents (FTE)	161.9	159.8	151.4
Building and Facilities			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	0.0	0.0	0.0
State and Tribal Assistance Grants			

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Goal, Appropriation Summary Budget Authority Full-time Equivalents (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Budget Authority	\$98,587.5	\$102,371.0	\$107,457.6
Full-time equivalents (FTE)	0.0	0.0	0.0
Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response			
Budget Authority	\$1,786,516.4	\$1,711,511.0	\$1,846,634.7
Full-time equivalents (FTE)	4,325.4	4,500.2	4,556.6
Environmental Program & Management			
Budget Authority	\$164,292.2	\$194,559.6	\$197,380.8
Full-time equivalents (FTE)	1,011.0	1,223.7	1,186.8
Envir. Program & Mgmt - Reim			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	1.9	0.0	0.0
Science & Technology			
Budget Authority	\$22,842.6	\$15,480.0	\$20,250.7
Full-time equivalents (FTE)	92.0	96.7	102.9
Science and Tech. - Reim			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	2.4	3.0	3.0
State and Tribal Assistance Grants			
Budget Authority	\$74,449.8	\$249,869.7	\$251,937.7
Full-time equivalents (FTE)	0.0	0.0	0.0
Leaking Underground Storage Tanks			
Budget Authority	\$75,320.9	\$70,100.2	\$70,450.7
Full-time equivalents (FTE)	65.4	70.0	71.3
Oil Spill Response			
Budget Authority	\$14,199.0	\$15,075.9	\$15,704.4
Full-time equivalents (FTE)	87.1	100.0	100.0
Oil Spill Response - Reimburse			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	9.2	0.0	0.0
FEMA REIM			
Budget Authority	\$0.0	\$0.0	\$0.0

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Goal, Appropriation Summary Budget Authority Full-time Equivalents (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Full-time equivalents (FTE)	17.5	0.0	0.0
Hazardous Substance Superfund			
Budget Authority	\$1,435,411.9	\$1,166,425.6	\$1,290,910.4
Full-time equivalents (FTE)	2,947.5	2,923.3	3,009.1
Superfund Reimbursables			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	91.4	83.5	83.5
Reduction of Global and Cross-border Environmental Risks			
Budget Authority	\$216,575.3	\$269,727.2	\$263,847.5
Full-time equivalents (FTE)	530.4	504.7	502.3
Environmental Program & Management			
Budget Authority	\$160,453.8	\$155,878.6	\$174,998.6
Full-time equivalents (FTE)	428.1	425.9	426.7
Envir. Program & Mgmt - Reim			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	4.7	0.0	0.0
Science & Technology			
Budget Authority	\$46,416.9	\$38,848.6	\$38,848.9
Full-time equivalents (FTE)	97.6	78.8	75.6
State and Tribal Assistance Grants			
Budget Authority	\$9,704.6	\$75,000.0	\$50,000.0
Full-time equivalents (FTE)	0.0	0.0	0.0
Quality Environmental Information			
Budget Authority	\$202,315.0	\$199,040.4	\$228,322.1
Full-time equivalents (FTE)	846.1	847.1	840.0
Environmental Program & Management			
Budget Authority	\$154,863.9	\$153,938.5	\$178,318.5
Full-time equivalents (FTE)	700.6	699.6	671.2
Envir. Program & Mgmt - Reim			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	0.8	0.0	0.0

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Goal, Appropriation Summary Budget Authority Full-time Equivalents (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Science & Technology			
Budget Authority	\$12,701.8	\$9,367.5	\$15,382.6
Full-time equivalents (FTE)	48.9	50.3	69.7
State and Tribal Assistance Grants			
Budget Authority	\$24,921.8	\$25,000.0	\$25,000.0
Full-time equivalents (FTE)	0.0	0.0	0.0
Hazardous Substance Superfund			
Budget Authority	\$9,827.5	\$10,734.4	\$9,621.0
Full-time equivalents (FTE)	8.9	9.6	11.5
Working Capital Fund - Reimb			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	86.9	87.6	87.6
 Sound Science, Improved Understanding of Env. Risk and Greater Innovation to Address Env. Problems			
Budget Authority	\$323,203.3	\$327,837.9	\$357,105.8
Full-time equivalents (FTE)	992.2	996.3	1,006.2
Environmental Program & Management			
Budget Authority	\$68,214.3	\$67,795.7	\$75,212.0
Full-time equivalents (FTE)	240.8	248.6	262.8
Science & Technology			
Budget Authority	\$251,765.6	\$254,607.9	\$278,204.0
Full-time equivalents (FTE)	751.4	747.7	743.4
Hazardous Substance Superfund			
Budget Authority	\$3,223.4	\$5,434.3	\$3,689.8
Full-time equivalents (FTE)	0.0	0.0	0.0
 A Credible Deterrent to Pollution and Greater Compliance with the Law			
Budget Authority	\$398,150.1	\$402,462.9	\$430,560.5
Full-time equivalents (FTE)	2,434.8	2,330.7	2,480.4
Environmental Program & Management			
Budget Authority	\$300,646.8	\$286,764.7	\$328,323.4
Full-time equivalents (FTE)	2,250.8	2,145.0	2,294.7

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Goal, Appropriation Summary Budget Authority Full-time Equivalents (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Envir. Program & Mgmt - Reim			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	9.1	0.0	0.0
Science & Technology			
Budget Authority	\$10,429.7	\$11,269.5	\$12,562.5
Full-time equivalents (FTE)	77.8	77.7	85.6
State and Tribal Assistance Grants			
Budget Authority	\$69,524.4	\$85,120.7	\$70,204.7
Full-time equivalents (FTE)	0.0	0.0	0.0
Hazardous Substance Superfund			
Budget Authority	\$17,549.2	\$19,308.0	\$19,469.9
Full-time equivalents (FTE)	97.1	108.0	100.1
Effective Management			
Budget Authority	\$443,458.1	\$460,815.7	\$468,826.6
Full-time equivalents (FTE)	2,009.9	1,942.2	1,890.9
Environmental Program & Management			
Budget Authority	\$288,774.3	\$298,678.4	\$310,266.0
Full-time equivalents (FTE)	1,429.7	1,366.6	1,370.7
Envir. Program & Mgmt - Reim			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	4.2	1.5	1.5
Science & Technology			
Budget Authority	\$23,725.8	\$10,237.7	\$10,215.8
Full-time equivalents (FTE)	0.0	0.0	0.0
Building and Facilities			
Budget Authority	\$30,452.8	\$42,918.0	\$42,918.0
Full-time equivalents (FTE)	0.0	0.0	0.0
Leaking Underground Storage Tanks			
Budget Authority	\$1,617.9	\$2,212.8	\$2,094.7
Full-time equivalents (FTE)	6.3	10.3	9.0
Oil Spill Response			
Budget Authority	\$547.6	\$505.1	\$504.4

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Goal, Appropriation Summary Budget Authority Full-time Equivalents (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Full-time equivalents (FTE)	0.0	0.0	0.0
Inspector General			
Budget Authority	\$35,230.3	\$35,325.0	\$36,807.7
Full-time equivalents (FTE)	267.5	271.6	271.6
Inspector General - Reim			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	0.2	0.0	0.0
Rereg. & Exped. Proc. Rev Fund			
Budget Authority		\$0.0	\$0.0
Full-time equivalents (FTE)	0.2	0.0	0.0
Hazardous Substance Superfund			
Budget Authority	\$63,109.4	\$70,938.7	\$66,020.0
Full-time equivalents (FTE)	294.5	280.1	226.0
Working Capital Fund - Reimb			
Budget Authority	\$0.0	\$0.0	\$0.0
Full-time equivalents (FTE)	7.3	12.1	12.1
Total			
Budget Authority	\$8,278,987.9	\$7,620,513.0	\$7,630,537.3
Full-time equivalents (FTE)	17,590.4	17,648.0	17,850.0

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Goal, Objective Summary Budget Authority Full-Time Equivalents (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Clean Air			
Budget Authority	\$602,190.0	\$597,977.2	\$617,415.1
Full-time equivalents (FTE)	1,813.8	1,820.0	1,823.3
Attain NAAQS			
Budget Authority	\$466,814.5	\$458,856.2	\$468,437.2
Full-time equivalents (FTE)	1,347.0	1,357.1	1,357.5
Reduce Air Toxics Risk			
Budget Authority	\$113,811.7	\$118,023.2	\$127,747.1
Full-time equivalents (FTE)	375.9	371.4	378.5
Reduce Acid Rain			
Budget Authority	\$21,563.8	\$21,097.8	\$21,230.8
Full-time equivalents (FTE)	90.9	91.5	87.3
Clean and Safe Water			
Budget Authority	\$3,870,039.5	\$3,214,674.2	\$2,952,472.9
Full-time equivalents (FTE)	2,681.8	2,742.8	2,776.4
Safe Drinking Water, Fish and Recreational Waters			
Budget Authority	\$1,355,114.4	\$1,148,425.1	\$1,198,942.3
Full-time equivalents (FTE)	854.8	887.4	921.9
Protect Watersheds and Aquatic Communities			
Budget Authority	\$474,725.2	\$435,814.7	\$479,787.4
Full-time equivalents (FTE)	1,000.5	988.8	989.3
Reduce Loadings and Air Deposition			
Budget Authority	\$2,040,199.9	\$1,630,434.4	\$1,273,743.2
Full-time equivalents (FTE)	826.5	866.6	865.2
Safe Food			
Budget Authority	\$113,098.3	\$109,814.6	\$119,011.5

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Goal, Objective Summary Budget Authority Full-Time Equivalents (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Full-time equivalents (FTE)	781.3	770.1	785.0
Reduce Risks from Pesticide Residues in Food			
Budget Authority	\$47,447.6	\$45,290.4	\$43,427.9
Full-time equivalents (FTE)	332.6	331.1	339.5
Eliminate Use on Food of Pesticides Not Meeting Standards			
Budget Authority	\$65,650.7	\$64,524.2	\$75,583.6
Full-time equivalents (FTE)	448.7	439.0	445.5
Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems			
Budget Authority	\$323,441.9	\$326,651.9	\$346,340.6
Full-time equivalents (FTE)	1,174.7	1,193.9	1,188.9
Reduce Public and Ecosystem Risk from Pesticides			
Budget Authority	\$56,169.1	\$55,409.8	\$57,313.1
Full-time equivalents (FTE)	237.3	239.1	233.7
Reduce Risks from Lead and Other Toxic Chemicals			
Budget Authority	\$37,745.8	\$36,355.9	\$38,722.5
Full-time equivalents (FTE)	135.7	144.7	149.8
Manage New Chemical Introduction and Screen Existing Chemicals for Risk			
Budget Authority	\$76,449.4	\$77,538.2	\$81,531.2
Full-time equivalents (FTE)	398.7	391.2	393.5
Ensure Healthier Indoor Air.			
Budget Authority	\$40,290.3	\$40,322.7	\$42,380.4
Full-time equivalents (FTE)	123.6	132.2	126.1
Facilitate Prevention, Reduction and Recycling of PBTs and Toxic Chemicals			
Budget Authority	\$48,461.0	\$46,115.9	\$49,958.2
Full-time equivalents (FTE)	180.5	196.0	194.5
Assess Conditions in Indian Country			

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Goal, Objective Summary Budget Authority Full-Time Equivalents (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Budget Authority	\$64,326.3	\$70,909.4	\$76,435.2
Full-time equivalents (FTE)	98.9	90.7	91.3
Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response			
Budget Authority	\$1,786,516.4	\$1,711,511.0	\$1,846,634.7
Full-time equivalents (FTE)	4,325.4	4,500.2	4,556.6
Control Risks from Contaminated Sites and Respond to Emergencies			
Budget Authority	\$1,621,875.2	\$1,544,249.8	\$1,678,154.8
Full-time equivalents (FTE)	3,570.5	3,699.8	3,765.0
Regulate Facilities to Prevent Releases			
Budget Authority	\$164,641.2	\$167,261.2	\$168,479.9
Full-time equivalents (FTE)	754.9	800.4	791.6
Reduction of Global and Cross-border Environmental Risks			
Budget Authority	\$216,575.3	\$269,727.2	\$263,847.5
Full-time equivalents (FTE)	530.4	504.7	502.3
Reduce Transboundary Threats to Human and Ecosystem Health in North America.			
Budget Authority	\$33,693.5	\$98,185.9	\$89,394.6
Full-time equivalents (FTE)	81.3	80.8	85.8
Reduce Greenhouse Gas Emissions.			
Budget Authority	\$146,393.0	\$136,953.4	\$138,105.8
Full-time equivalents (FTE)	329.9	303.9	299.0
Reduce Stratospheric Ozone Depletion.			
Budget Authority	\$14,749.8	\$15,813.3	\$17,540.3
Full-time equivalents (FTE)	30.1	29.7	30.3
Protect Public Health and Ecosystems from PBTs and other Toxics.			

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Goal, Objective Summary Budget Authority Full-Time Equivalents (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Budget Authority	\$5,391.1	\$6,173.6	\$6,680.7
Full-time equivalents (FTE)	31.8	35.6	36.4
Increase Domestic and International Use of Cleaner and More Cost-Effective Technologies.			
Budget Authority	\$16,347.9	\$12,601.0	\$12,126.1
Full-time equivalents (FTE)	57.3	54.7	50.8
Quality Environmental Information			
Budget Authority	\$202,315.0	\$199,040.4	\$228,322.1
Full-time equivalents (FTE)	846.1	847.1	840.0
Increase Availability of Quality Health and Environmental Information.			
Budget Authority	\$125,899.5	\$120,331.1	\$118,203.3
Full-time equivalents (FTE)	496.4	492.1	478.7
Provide Access to Tools for Using Environmental Information.			
Budget Authority	\$49,493.9	\$48,181.3	\$47,071.0
Full-time equivalents (FTE)	164.8	169.7	163.5
Improve Agency Information Infrastructure and Security.			
Budget Authority	\$26,921.6	\$30,528.0	\$63,047.8
Full-time equivalents (FTE)	184.9	185.3	197.8
Sound Science, Improved Understanding of Env. Risk and Greater Innovation to Address Env. Problems			
Budget Authority	\$323,203.3	\$327,837.9	\$357,105.8
Full-time equivalents (FTE)	992.2	996.3	1,006.2
Conduct Research for Ecosystem Assessment and Restoration.			
Budget Authority	\$110,817.6	\$119,114.6	\$122,885.5
Full-time equivalents (FTE)	350.0	350.9	346.6
Improve Scientific Basis to Manage Environmental Hazards and Exposures.			

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Goal, Objective Summary Budget Authority Full-Time Equivalents (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Budget Authority	\$52,022.6	\$56,355.0	\$67,467.5
Full-time equivalents (FTE)	172.6	176.0	180.4
Enhance Capabilities to Respond to Future Environmental Developments.			
Budget Authority	\$61,427.7	\$50,965.8	\$68,911.4
Full-time equivalents (FTE)	169.2	152.6	166.7
Improve Environmental Systems Management.			
Budget Authority	\$54,429.8	\$52,274.1	\$45,446.9
Full-time equivalents (FTE)	145.1	146.6	143.0
Quantify Environmental Results of Partnership Approaches.			
Budget Authority	\$9,276.2	\$9,058.4	\$9,036.8
Full-time equivalents (FTE)	20.6	18.0	16.6
Incorporate Innovative Approaches.			
Budget Authority	\$26,070.7	\$29,787.9	\$31,939.0
Full-time equivalents (FTE)	112.9	126.7	127.4
Demonstrate Regional Capability to Assist Environmental Decision Making.			
Budget Authority	\$6,088.7	\$6,591.8	\$6,607.6
Full-time equivalents (FTE)	2.0	3.0	3.0
Conduct Peer Review to Improve Agency Decisions.			
Budget Authority	\$3,070.0	\$3,690.3	\$4,811.1
Full-time equivalents (FTE)	19.8	22.5	22.5
A Credible Deterrent to Pollution and Greater Compliance with the Law			
Budget Authority	\$398,150.1	\$402,462.9	\$430,560.5
Full-time equivalents (FTE)	2,434.8	2,330.7	2,480.4
Increase Compliance Through Enforcement.			
Budget Authority	\$344,680.1	\$346,590.5	\$372,173.1
Full-time equivalents (FTE)	2,017.8	1,932.6	2,079.3

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Goal, Objective Summary Budget Authority Full-Time Equivalents (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Promote Compliance Through Incentives and Assistance.			
Budget Authority	\$53,470.0	\$55,872.4	\$58,387.4
Full-time equivalents (FTE)	417.0	398.1	401.1
Effective Management			
Budget Authority	\$443,458.1	\$460,815.7	\$468,826.6
Full-time equivalents (FTE)	2,009.9	1,942.2	1,890.9
Provide Leadership			
Budget Authority	\$47,027.5	\$49,850.6	\$51,380.5
Full-time equivalents (FTE)	306.4	311.4	310.6
Manage for Results Through Services, Policies, and Operations.			
Budget Authority	\$176,749.8	\$201,230.9	\$198,525.6
Full-time equivalents (FTE)	1,325.3	1,243.1	1,181.2
Provide Quality Work Environment.			
Budget Authority	\$166,878.6	\$156,141.5	\$162,127.5
Full-time equivalents (FTE)	18.5	15.4	27.2
Provide Audit, Evaluation, and Investigative Products and Services			
Budget Authority	\$52,802.2	\$53,592.7	\$56,793.0
Full-time equivalents (FTE)	359.7	372.3	371.9
Total			
Budget Authority	\$8,278,987.9	\$7,620,513.0	\$7,630,537.3
Full-time equivalents (FTE)	17,590.4	17,648.0	17,850.0

Goal 1: Clean Air

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Clean Air

Strategic Goal: The air in every American community will be safe and healthy to breathe. In particular, children, the elderly, and people with respiratory ailments will be protected from health risks of breathing polluted air. Reducing air pollution will also protect the environment, resulting in many benefits, such as restoring life in damaged ecosystems and reducing health risks to those whose subsistence depends directly on those ecosystems.

Resource Summary (Dollars in thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Clean Air	\$602,190.0	\$597,977.2	\$617,415.1	\$19,437.9
Attain NAAQS	\$466,814.5	\$458,856.2	\$468,437.2	\$9,581.0
Reduce Air Toxics Risk	\$113,811.7	\$118,023.2	\$127,747.1	\$9,723.9
Reduce Acid Rain.	\$21,563.8	\$21,097.8	\$21,230.8	\$133.0
Total Workyears	1,813.8	1,820.0	1,823.3	3.3

Background and Context

The average American breathes over 3,000 gallons of air each day. Air pollution contributes to illnesses such as cancer and to respiratory, developmental, and reproductive problems. Children are at greater risk because they are more active outdoors and their lungs are still developing. The elderly also are more sensitive to air pollution because they often have heart or lung disease.

Certain pollutants (such as some metals and certain organic chemicals) that are emitted from industrial and other sources can be deposited into water bodies and magnified through the food web, adversely affecting fish-eating animals and humans. Air pollution also makes soil and waterways more acidic, reduces visibility, and accelerates corrosion of buildings and monuments.

The air pollution problem is national and international in scope. Air pollution regularly crosses local and state lines and our borders. This causes problems not only for the population in urban areas, but also for less populated areas and national parks. Federal assistance and leadership are essential for developing and implementing cooperative programs to prevent and control air pollution; for ensuring that national standards are met; and for providing tools for states, tribes, and local communities to use in preparing their clean air plans.

Criteria pollutants: To protect public health and the environment, EPA develops standards that limit concentrations of six major pollutants (known as criteria pollutants) that are linked to serious health and environmental problems:

- Particulate matter (PM). PM causes a wide variety of health and environmental problems. When exposed to higher concentrations of fine PM, people with existing lung or heart diseases - such as asthma, chronic obstructive pulmonary disease, congestive heart disease, or coronary artery disease - are at increased risk of health problems requiring hospitalization or of premature death. Similarly, children and people with existing lung disease may not be able to breathe as deeply or vigorously as they normally would and they may experience symptoms such as coughing and shortness of breath. Fine PM can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases, such as asthma and chronic bronchitis, causing more use of medication and more doctor visits.

PM is also a major cause of reduced visibility in parts of the United States, including many of our national parks. Particles can be carried over long distances by wind and then settle on ground or water. The effects of certain species of PM settling may include making lakes and streams acidic, changing the nutrient balance in coastal waters and watersheds, depleting the nutrients in soil, damaging sensitive forests and farm crops, and decreasing the diversity of ecosystems.

- Ground-level ozone (smog). When breathed at any concentration, ozone can irritate and inflame a person's airways. Health effects attributed to exposures to ozone, generally while individuals are engaged in moderate or heavy exertion, include significant decreases in lung function and increased respiratory symptoms such as chest pain and cough as concentrations rise. Exposures to ozone result in lung inflammation, aggravate respiratory diseases such as asthma, and may make people more susceptible to respiratory infection. Children who are active outdoors are most at risk for experiencing such effects. Other at-risk groups include adults who are active outdoors such as outdoor workers and individuals with respiratory disorders such as asthma. Ground-level ozone interferes with the ability of many plants to produce and store food, which reduces crop and forest yields by making plants more susceptible to disease, insects, other pollutants and harsh weather. It damages the leaves of trees and other plants, affecting the appearance of cities, national parks and recreation areas.
- Sulfur dioxide (SO₂). Peak levels of SO₂ can cause temporary breathing difficulty for people with asthma who are active outdoors. Longer-term exposure to a combination of SO₂ and fine particles can cause respiratory illness, alter the defense mechanisms of lungs, and aggravate cardiopulmonary disease. People who may be most susceptible to these effects include individuals with cardiovascular disease or chronic lung disease, as well as children and the elderly. SO₂ is also a major contributor to acidic deposition.
- Nitrogen dioxide (NO₂). Exposure to NO₂ causes respiratory symptoms such as coughing, wheezing, and shortness of breath in children and adults with respiratory diseases such as asthma. Even short exposures to NO₂ affect lung function. NO₂ also contributes to acidic deposition, eutrophication in coastal waters, and visibility problems.

- Carbon monoxide (CO). The health threat from even low levels of CO is most serious for those who suffer from heart disease, like angina, clogged arteries, or congestive heart disease. For a person with heart disease, a single exposure to CO at low levels may cause chest pain and reduce that person's ability to exercise. Even healthy people can be affected by high levels of CO. People who breathe higher levels of CO can develop vision problems, experience reduced ability to work or learn, reduced manual dexterity, and have difficulty performing complex tasks. CO is most dangerous in enclosed or confined spaces and will cause death.
- Lead. Lead causes damage to the kidneys, liver, brain and nerves, and other organs. Excessive exposure to lead causes seizures, mental retardation, behavioral disorders, memory problems, and mood changes. Low levels of lead damage the brain and nerves in fetuses and young children, resulting in learning deficits and lowered IQ.

Hazardous air pollutants: Hazardous air pollutants (HAPs), commonly referred to as air toxics, are pollutants that are known or suspected to cause cancer or other serious health problems, such as reproductive effects or birth defects, or adverse environmental effects. EPA is working with state, local, and Tribal governments to reduce air releases of 188 pollutants listed in the Clean Air Act Amendments of 1990. Examples of air toxics include mercury, benzene, toluene, and xylene (BTX). HAPs are emitted from literally thousands of sources, including automobiles, trucks and buses. Adverse effects to human health and the environment due to HAPs can result from even low level exposure to air toxics from individual facilities, exposures to mixtures of pollutants found in urban settings, or exposure to pollutants emitted from distant sources that are transported through the atmosphere over regional, national, or even global airsheds.

Compared to information for the six criteria pollutants, the information about the ambient concentrations of HAPs and their potential health effects is relatively incomplete. Most of the information on the potential health effects of these pollutants is derived from experimental animal data. Of the 188 HAPs, almost 60 percent are classified by the Clean Air Act (section 112(f)(2)(A)) as known, probable, or possible carcinogens. One of the often documented ecological concerns associated with toxic air pollutants is the potential to damage aquatic ecosystems.

The Administration evaluated the Air Toxics program this past year using the Performance Assessment Rating Tool (PART). This evaluation found that the program's purpose is clear and the management of the program is good; however, the program has not clearly shown it is maximizing the program's net benefits and proposing the most cost-effective regulations. Furthermore, linkages are insufficient between annual performance goals and the long-term performance goal of protecting 95 percent of the United States population from unacceptable risks of cancer and other significant health problems from air toxic emissions. A moving baseline and data gaps for toxicity and actual population exposure limit the assessment of the program's results. In response to these findings, the Administration is requesting \$7 million in increased funding for the Air Toxics program in state grants for monitoring to help fill these data gaps. In addition, the Administration will focus on maximizing programmatic net

benefits, minimizing the cost per deleterious health effect avoided, and establishing better performance measures.

Acid rain: Emissions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x) react in the atmosphere and fall to earth as acid rain, causing acidification of lakes and streams and contributing to the damage of trees at high elevations. Acid deposition also accelerates the decay of building materials and paints and contributes to degradation of irreplaceable cultural objects, such as statues and sculptures. NO_x deposition also contributes to eutrophication of coastal waters, such as the Chesapeake Bay and Tampa Bay. Before falling to earth, SO₂ and NO_x gases form fine particles that are implicated in affecting public health by contributing to premature mortality, chronic bronchitis, and other respiratory problems. The fine particles also contribute to reduced visibility in national parks and elsewhere.

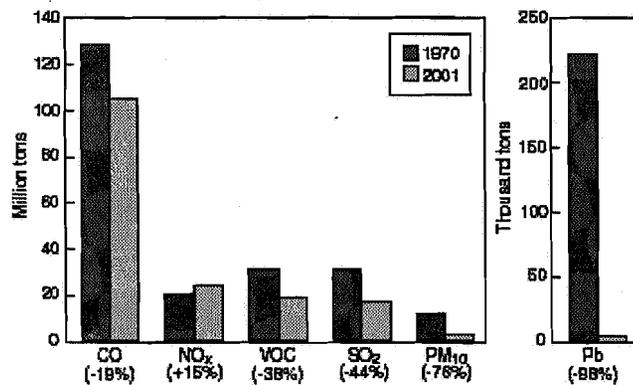
Trends: The air in the United States is now the cleanest it has been during the 20 years that EPA has been tracking air quality. National air quality, measured at thousands of monitoring stations across the country, has shown improvements for all six major criteria pollutants: PM, ozone, SO₂, NO₂, CO, and lead. Over the last three decades, air pollution has declined by 25 percent, while our economy has grown over 160 percent. These gains have provided cleaner air for millions of people. There also have been dramatic

reductions (10 to 25 percent) in sulfates deposited in many of the most acid sensitive ecosystems located in the Northeastern United States since implementation of EPA's acid rain program in 1995. This means that during the past 20 years, Americans have been able to breathe a little easier, see a little better, and enjoy a cleaner environment. Additional steps still need to be taken, however, to bring remaining areas with unhealthful air fully into compliance with health-based air quality standards and to protect sensitive ecosystems. Thus the nation faces a significant challenge in maintaining this historical trend of improving air quality, given expectations for future growth in the economy, the population, and highway vehicle use.

EPA tracks trends in six criteria air pollutants through an Air Quality Index that reflects the number of days that any health-based standard is violated. The percentage of days across the country that air quality violated a health standard has dropped from almost 10 percent in 1988 to 3 percent in 2000. Even on those days, the standard was generally violated only for a few hours, although these violations tend to be in late afternoon hours when many children and adults are outside engaging in work and exercise that increases the impact of exposure to unhealthful air.

Nationwide, levels of air toxics dropped approximately 30 percent between 1990 and 2000. For example, perchloroethylene monitored in 16 urban sites in California showed a drop of 60 percent from 1989 to 1998. Benzene, emitted from cars, trucks, oil refineries, and chemical processes, is another widely monitored toxic air pollutant. Measures taken from 95

Comparison of 1970 and 2001 Emissions



urban monitoring sites across the country show a 47 percent drop in benzene levels from 1994 to 2000. In addition, ambient concentrations of many hazardous air pollutants remain high and continue to impose significant health risks on exposed individuals.

Although substantial progress has been made, it is important not to lose sight of the magnitude of the air pollution problem that still remains. Despite great progress in improving air quality, over 160 million tons of air pollution was released into the air in 2000 in the United States. Approximately 121 million people lived in counties where monitored air was unhealthy because of high levels of the six principal air pollutants. Some national parks, including the Great Smoky Mountains and the Shenandoah, have high air pollution concentrations resulting from the transport of pollutants many miles from their original sources. In 2000, for the third consecutive year, rural 1-hour ozone (smog) levels were greater than the average levels observed for urban sites, but they are still lower than levels observed at suburban sites.

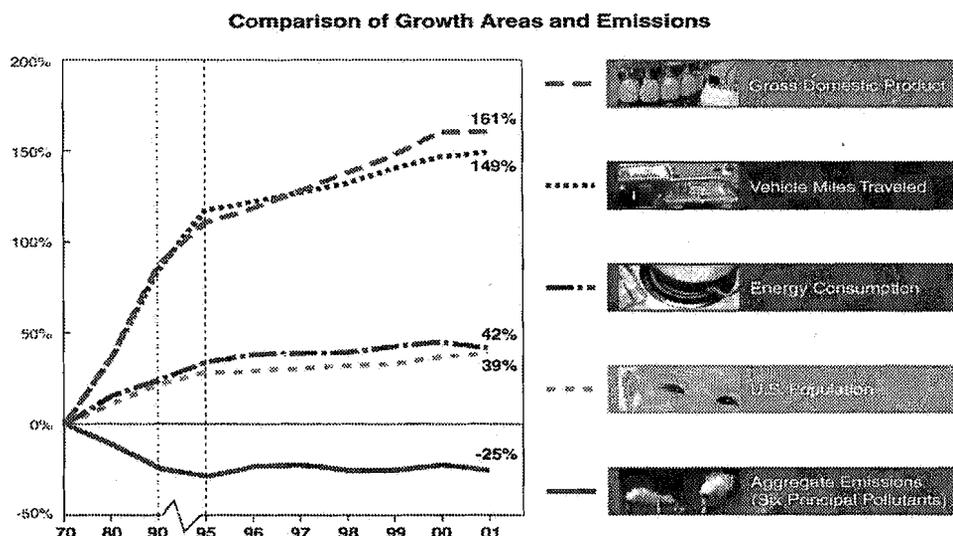
Means and Strategy

Strategy: EPA's overall goals for the air quality program include improving air quality and addressing highest health and environmental risks while reducing program costs, getting better results in less burdensome ways, and increasing the roles of state, Tribal, and local governments. To help implement these goals, the President has proposed the Clear Skies Act. Clear Skies was proposed in response to a growing need for an emission reduction plan that will protect the environment while providing regulatory certainty for the utility industry. Clear Skies would create a market-based program, with results guaranteed by caps instituted over a period of time that would dramatically reduce (about 70 percent) power plant emissions of SO₂, NO_x, and mercury. Clear Skies expands the successful Acid Rain program, which reduced pollution faster and at far less cost than any other Clean Air Act program. With guaranteed results, and elimination of costly regulation, litigation, inspection and enforcement actions, industry compliance is expected to be nearly 100 percent, as it has been in the Acid Rain program.

The Clean Air Act currently provides the principal framework for national, state, Tribal, and local efforts to protect and improve air quality and reduce risks. Under the Clean Air Act, EPA has a number of responsibilities:

- Ensuring continued protection of public health and the environment through regular review of National Ambient Air Quality Standards (NAAQS) for the six criteria pollutants and revision of the NAAQS, if necessary, based on the latest scientific information available.
- Ensuring that the NAAQS are met by developing and carrying out national regulatory and non-regulatory programs that reduce air pollution from vehicles, factories, and other sources, and by working in partnership with state, Tribal, and local governments on implementing their clean air programs.
- Assessing public health risks from air toxics and reducing public exposure to pollutants that cause or may cause cancer and other adverse human health effects through reduction of toxic emissions and pollution prevention.

- Reducing acid rain through a market-based approach that provides flexibility to electric utilities and other large sources of SO₂ and NO_x in how they meet emission reduction requirements.
- Protecting and enhancing visibility across large regional areas, including many of the Nation's most treasured parks and wilderness areas, by reducing pollutants such as PM, SO₂, and NO_x.
- Providing a strong scientific basis for policy and regulatory decisions and exploring emerging problem areas through a coordinated, comprehensive research program.



The air problems that now remain are some of the most difficult to solve. EPA has developed strategies to help address this difficult increment and overcome the barriers that have hindered progress towards clean air in the past. The Agency will use flexible approaches, where possible, instead of hard-and-fast formulas or specific technology requirements. Also, the Agency will work with areas that have the worst problems to develop strategies that address unique local conditions and achieve real risk reductions that matter to communities.

- Multi-pollutant strategies. The many inter-relationships among ozone, fine PM, regional haze, and air toxics problems provide opportunities for developing integrated strategies to reduce pollutant emissions. Clear Skies provides a good example of how to take advantage of these opportunities. EPA also has encouraged states, tribes, and local governments to coordinate the work they are doing to maximize the effectiveness of control strategies.
- Economic incentives. EPA has provided increased flexibility to industry through the use of economic incentives and market-based approaches. Emissions trading, averaging, and banking have become standard tools in the Agency's air programs. The acid rain program -- which is the prototype for Clear Skies -- uses allowance trading and early reduction credits to cut control costs and reduce pollution faster. The Tier II and diesel

programs allow manufacturers to produce a mix of vehicles that collectively meet emission reduction targets. EPA's economic incentive programs include a variety of measures designed to increase flexibility and efficiency, while maintaining the accountability and enforceability of traditional air quality management programs.

- Integrated strategies. We will continue working with states and local agencies on air pollution problems on a regional basis. We need to build on these relationships to ensure that regional approaches become institutionalized at the Federal, state and Tribal levels. Regional haze and PM_{2.5} concentrations are often the products of the same pollutants and precursors. For this reason, we must coordinate the technical and scheduling requirements for the two programs to address both environmental problems in a coordinated fashion. Because many of the controls that will be needed to achieve the NAAQS for PM_{2.5} also may be needed to meet reasonable progress targets for regional haze, we called for the development of strategies on a schedule which would maximize states' opportunities to establish a single set of requirements to address both programs.
- Systems approach. The Tier II and 2007 heavy-duty vehicle rulemakings referenced above are good examples of how the Agency looks at air quality problems from a broader perspective and takes advantage of the potential synergies. As catalyst and other advanced vehicle technologies require low-sulfur fuel, the Agency is regulating fuels and vehicles as one system, to give pollution control manufacturers the incentive to develop even cleaner technologies. This results in a greater reduction in pollution -- at less cost -- than by addressing fuels and vehicles separately.
- Innovative technology. EPA increasingly incorporates incentives and performance-based approaches into regulations to spur new technologies that will help meet ambitious goals more cost-effectively -- sometimes at even less cost than EPA has predicted. The Agency also is building partnerships that help develop and deploy these new technologies. The report prepared to meet the requirements of section 812 of the Clean Air Act includes a list of the technologies that have been developed since the 1990 Amendments. The advances have been remarkable. Technologies like selective catalytic reduction (SCR) on power plants, ultra-low NO_x burners, or advanced catalysts now have entered the mainstream, at far less cost than anyone predicted.

Research

EPA's National Ambient Air Quality Standards (NAAQS) related research supports the Agency's Clean Air Goal to protect human health and the environment by meeting national clean air standards for carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen oxides (NO_x), lead, tropospheric ozone, and particulate matter (PM). This research provides methods, models, data, and assessment criteria on the health risks associated with exposure to these pollutants, alone and in combination, focusing on exposures, health effects, mechanisms of injury, and identifying components of particulate matter (PM) that affect public health. In addition, this research provides implementation tools to support efforts by industry, state, Tribal, and local regulators, to develop and improve State Implementation Plans (SIPs) to attain the NAAQS.

Research on air toxics investigates the root causes of the environmental and human health

problems in urban areas related to these pollutants. These efforts provide the necessary health effects data, measurements, methods, models, information, assessments, and technical support to Federal, state, Tribal, and local regulators and industry to estimate human health effects and aggregate exposures to hazardous air pollutants. Research also supports atmospheric and emission modeling in order to estimate fate, ambient concentrations, and mobile source emissions of air toxics at a more refined scale. With this information, the Agency will be in a better position to determine risk and develop alternative strategies for maximizing risk reduction.

Several mechanisms are in place to ensure a high-quality research program at EPA. The Research Strategies Advisory Committee (RSAC) of EPA's Science Advisory Board (SAB), an independently chartered Federal Advisory Committee Act (FACA) committee, meets annually to conduct an in-depth review and analysis of EPA's Science and Technology account. The RSAC provides its findings to the House Science Committee and sends a written report on the findings to EPA's Administrator after every annual review. Moreover, EPA's Board of Scientific Counselors (BOSC) provides counsel to the Assistant Administrator for the Office of Research and Development (ORD) on the operation of ORD's research program. EPA's scientific and technical work products must also undergo either internal or external peer review, with major or significant products requiring external peer review. The Agency's Peer Review Handbook (2nd Edition) codifies procedures and guidance for conducting peer review.

Strategic Objectives

Attain NAAQS

- The number of people living in areas with monitored ambient ozone concentrations below the NAAQS for the 1-hour ozone standard will increase by 1% (relative to 2003) for a cumulative total of 20% (relative to 1992).
- The number of people living in areas with monitored ambient ozone concentrations below the NAAQS for the 8-hour ozone standard will increase by 3% (relative to 2003) for a cumulative total of 3% (relative to 2001).
- The number of people living in areas with monitored ambient PM concentrations below the NAAQS for the PM-10 standard will increase by 1% (relative to 2003) for a cumulative total of 11% (relative to 1992).
- The number of people living in areas with monitored ambient PM concentrations below the NAAQS for the PM_{2.5} standard will increase by less than 1% (relative to 2003) for a cumulative total of less than 1% (relative to 2001).
- The number of people living in areas with monitored ambient CO, NO₂, SO₂, or Pb concentrations below the NAAQS will increase by less than 1% (relative to 2003) for a cumulative total of 63% (relative to 1992).
- Increase the number of tribes monitoring air quality for ozone and/or particulate matter from 42 to 45 and increase the percentage of tribes monitoring clean air for ozone from 64% to 67% and particulate matter from 71% to 72%.

Reduce Air Toxics Risk

- Air toxics emissions nationwide from stationary and mobile sources combined will be reduced by an additional 2% of the updated 1993 baseline of 6.0 million tons for a cumulative reduction of 37%.

Reduce Acid Rain

- Maintain or increase annual SO₂ emission reduction of approximately 5 million tons from the 1980 baseline. Keep annual emissions below level authorized by allowance holdings and make progress towards achievement of Year 2010 SO₂ emissions cap for utilities.
- 2 million tons of NO_x from coal-fired utility sources will be reduced from levels that would have been emitted without implementation of Title IV of the Clean Air Act Amendments.

Highlights

Continue progress toward NAAQS attainment: For FY 2004, EPA will move forward with the President's proposed Clear Skies Act, implement the National Energy Policy, continue the regular reviews of the various NAAQS, carry out programs to meet NAAQS and regional haze requirements, and continue the research, air quality monitoring, and laboratory analyses that provide the scientific and technical bases for the NAAQS program.

- PM_{2.5} and 8-hour Ozone Attainment. Further emission reductions in this country are necessary to achieve the Clean Air Act PM_{2.5} and 8-hour ozone National Ambient Air Quality Standards (NAAQS) recently upheld in Federal court. EPA will be moving forward with full implementation of the standards. The activities included in the President's proposed Clear Skies Act are critical elements for implementation.
- Review of NAAQS. EPA will make available to the public a comprehensive assessment of recent scientific findings on the health and environmental risks associated with PM. Following completion of this assessment and a staff paper that evaluates the policy implications of the scientific findings, EPA will propose a decision on whether to retain or revise the PM NAAQS.
- Implementation of existing NAAQS. On the national level, EPA will work with states, tribes, and local governments on developing and implementing measures to meet clean air standards. The Agency will continue technical support for implementing the 1-hour ozone NAAQS. EPA also will support states and tribes in developing innovative, voluntary programs that will help to achieve early reductions in the transition to the 8-hour ozone standard. In addition, the Agency will develop a strategy and guidance for transition from the PM₁₀ standard to a fine particulate (PM_{2.5}) standard. We will work to promote and expand the use of voluntary and other innovative approaches to provide emission reductions.

- Vehicle, engine, and fuels standards. EPA will establish and/or implement Federal standards to require cleaner motor vehicles, nonroad equipment, and fuels that are cost-effective and technically feasible. The Agency will continue implementation of the Tier II and gasoline sulfur standards. The Agency also will continue work on the 2007 heavy-duty highway engine and diesel sulfur requirements. In addition, EPA will develop a rule establishing new standards for heavy-duty nonroad diesel engines and vehicles.
- Certification and compliance. EPA will continue to monitor industry compliance with vehicle, engine, and fuels standards and to proceed with advancements in vehicle emission control technologies. The capabilities to test vehicles at EPA's National Vehicle and Fuels Emissions Laboratory (NVFEL) is expanding greatly to keep pace with the more stringent and complex new regulations for cars, heavy-duty diesel engines, and gasoline and diesel fuels that take effect in FY 2004. For example, EPA will establish a credible compliance testing program to certify that heavy-duty engine manufacturers are meeting new emission standards program requirements.
- Sensitive Populations. EPA will expand voluntary partnerships and outreach efforts to reduce emissions from diesel engines, as part of a comprehensive strategy to address the risks that pollution poses to sensitive populations, especially children. Through the Voluntary Diesel Retrofit Program, EPA will develop a public campaign on anti-idling, early switching of buses to ultra-low sulfur diesel fuel, and retrofitting or retiring selected bus models. Because diesel engines last for 30 years, EPA's new heavy-duty diesel engine standards, applicable in 2004 and 2007, will take time to impact the fleet and achieve emission reductions. Thus, voluntary partnerships and outreach efforts, as part of a comprehensive strategy, are the primary ways to realize immediate air quality benefits from the older, heavy-duty diesel engines and protect the health of today's children and other sensitive populations.

Reduce public exposure to air toxics: In FY 2004, EPA will develop strategies and rules to help states and tribes reduce emissions and exposure to hazardous air pollutants, particularly in urban areas, and reduce harmful deposition in water bodies. The Agency also will target source characterization work, especially development and improvement of emissions information that is essential for the states, tribes, and local agencies to develop strategies to meet the standards. EPA will look closely at urban areas to determine the various sources of toxics that enter the air, water, and soil, and determine the best manner to reduce the total toxics risk in these urban areas. Some specific activities and initiatives in this program for FY 2004 include:

- Air toxics monitoring. EPA will work with states to expand the air toxics monitoring network operated by state, Tribal, and local agencies. This expansion will help assess the success of EPA's comprehensive air toxics strategy, as well as the multi-pollutant strategy. Such monitoring data also will enable EPA to benchmark its models and to track ambient trends for inhalation-risk air toxics and toxic components of particulate matter such as BTX. In the long term, assessments of ambient air toxics will help achieve a reduction in the incidence of cancer attributable to exposure to hazardous air pollutants emitted by stationary sources of hazardous air pollutants of not less than 75 percent, considering control of emissions of hazardous air pollutants from all stationary sources and resulting from any measures implemented by EPA or by the states.

- Residual Risk. The 1990 Clean Air Act Amendments require EPA to set standards for 188 hazardous air pollutants on a 10-year schedule. In addition, the Amendments set detailed requirements for an air toxics program that includes a two-phased process consisting of technology-based standards for mobile and stationary sources, followed by a risk-based program approach. In FY 2004, as the final technology-based standards for stationary sources are being completed, EPA will work on a risk-based approach to protect public health from the remaining air toxics emissions. This approach includes targeting particular problems such as residual risks from already controlled sources and elevated risks in urban areas. The development of more stringent residual risk standards will reduce cancer and non-cancer related health risks in the vicinity of major industrial sources where risks from hazardous air pollutants are determined to be unacceptably high. This will also help the Agency make progress with respect to its long-term strategy goals of reducing cancer risks from stationary sources by 75% from 1990 levels and significantly reducing non-cancer related health risks.
- Mobile sources air toxics. In FY 2001, EPA issued a rule to address emissions of air toxics from mobile sources. In the rule, the Agency identified 21 mobile source air toxics and established new gasoline toxic emission performance standards. The rule established a Technical Analysis Plan to conduct research and analysis on mobile source air toxics. In FY 2004, EPA will continue gathering emissions data, conducting exposure analyses, and evaluating the need for additional controls. This information will be used to support a rulemaking in which EPA will revisit the feasibility and need for additional controls for mobile sources and their fuels. EPA also will incorporate toxics emissions data into the mobile source models.

Implement Market-based acid rain program: For FY 2004 EPA will continue to carry out the market-based acid rain program, tracking emissions, auditing and certifying monitors, recording transfers of allowances, and reconciling emissions and allowances.

- Phase II implementation. EPA will continue to implement the trading system, tracking transfers of emission allowances from the expanded number of electric utility units covered by the Phase II requirements of the Clean Air Act.
- Monitoring and assessment. EPA will manage the operation of the Clean Air Status and Trends Network (CASTNet), a dry deposition network, and provide operational support for the National Atmospheric Deposition Program (NADP), a wet deposition network. The Agency will use the monitoring results, along with other information, to help assess the effectiveness of the acid rain program in reducing health and environmental risks.

Research

The Tropospheric Ozone and Particulate Matter (PM) Research Programs will develop new information and assess existing studies to support statutorily-mandated reviews of the NAAQS and will upgrade methods and models to guide states in the development of the state implementation plans (SIPs), used to achieve the NAAQS. In FY 2004, tropospheric ozone research will evaluate and refine emissions and air quality models to evaluate SIP attainment

strategies. The PM Research Program will continue work to strengthen the scientific basis for the periodic review of the PM NAAQS, including conducting epidemiological and exposure studies. The PM program will also develop tools and methods to characterize PM sources and health effects that will move the Agency toward its objective of reducing Americans' exposure to PM. Also included under this objective will be research to support review of NAAQS for lead, carbon monoxide, sulfur dioxide, and nitrogen oxide NAAQS.

Air toxics research provides information on effects, exposure, and source characterization, as well as other data to quantify existing emissions and to identify key pollutants and strategies for cost-effective risk management. In FY 2004, research will focus on completing health assessments for some of the highest priority hazardous air pollutants, and providing the science and technical support to Agency, state, Tribal and local regulators to estimate health effects and exposures to hazardous air pollutants both indoors and outdoors and to reduce risks.

New, related research efforts in Goal 8 supporting the Air Research program will include a Clear Skies initiative focusing on identifying tools to optimize mercury emissions reductions in order to increase the effectiveness of mercury reduction programs. This research, which also supports the President's multi-pollutant initiative, will provide the science needed to reduce the uncertainties limiting the Agency's ability to assess and manage health risks from mercury. It will also assist decision-makers in choosing the best technology to reduce mercury emissions to implement the final rule to regulate mercury and other air toxics emitted from power generation facilities.

External Factors

Stakeholder participation: To achieve clean air, EPA relies on the cooperation of Federal, state, Tribal, and local government agencies; industry; non-profit organizations; and individuals. Success is far from guaranteed, even with the full participation of all stakeholders. EPA has significant work to accomplish just to reach the annual targets that lead to the longer-term health and environmental outcomes and improvements that are articulated in the Clean Air goal. Meeting the Clean Air goal necessitates a strong partnership among all the stakeholders, but in particular among the states, tribes, and EPA; the Environmental Council of States; and organizations of state and local air pollution control officials. EPA will be working with various stakeholders to encourage new ways to meet the challenges of "cross regional" issues as well as to integrate programs to address airborne pollutants more holistically.

Environmental factors: In developing clean air strategies, states, tribes, and local governments assume normal meteorological patterns. As EPA develops standards and programs to achieve the Clean Air goal, it has to consider weather as a variable in the equation for implementing standards and meeting program goals. For example, even if an area is implementing a number of air pollution control programs under normal meteorological patterns, a hot humid summer may cause an area to exceed standards for days at a time, thereby exposing the public to unhealthy air.

Litigation: In July 1997, EPA published more protective NAAQS for ozone and PM. The standards were litigated. After extensive litigation in the Supreme Court and the Court of Appeals for the District of Columbia Circuit, both standards are still in effect. The PM_{2.5}

standard adopted in 1997 was completely affirmed by the courts and is not subject to further litigation. However, the revised PM₁₀ standard was vacated, resulting in reinstatement of the prior PM₁₀ standard. The 1997 ozone standard was also largely upheld by the D.C. Circuit's and the Supreme Court's decisions although the Supreme Court remanded ozone implementation issues to EPA. In response to the Supreme Court's decision, the Agency is conducting a rulemaking on the issue of how to implement the new 8-hour ozone standard in light of the Clean Air Act's provisions on the old 1-hour standard. This rulemaking does not affect the validity of the 8-hour standard. The litigation did not affect standards that were in place prior to July 1997.

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Clean Air

Objective: Attain NAAQS

Reduce the risk to human health and the environment by protecting and improving air quality so that air throughout the country meets national clean air standards by 2005 for carbon monoxide, sulfur dioxide, nitrogen dioxide, and lead; by 2012 for ozone; and by 2018 for particulate matter (PM). To accomplish this in Indian country, the tribes and EPA will, by 2005, have developed the infrastructure and skills to assess, understand, and control air quality and protect Native Americans and others from unacceptable risks to their health, environment, and cultural uses of natural resources.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Attain NAAQS	\$466,814.5	\$458,856.2	\$468,437.2	\$9,581.0
Environmental Program & Management	\$123,418.6	\$118,516.3	\$126,326.9	\$7,810.6
Hazardous Substance Superfund	\$0.0	\$21.5	\$2.1	(\$19.4)
Science & Technology	\$140,808.0	\$146,851.9	\$148,626.3	\$1,774.4
State and Tribal Assistance Grants	\$202,587.9	\$193,466.5	\$193,481.9	\$15.4
Total Workyears	1,347.0	1,357.1	1,357.5	0.4

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Air, State, Local and Tribal Assistance Grants: Other Air Grants	\$199,966.5	\$193,466.5	\$193,481.9	\$15.4
Carbon Monoxide	\$4,258.4	\$4,025.1	\$3,887.0	(\$138.1)
Congressionally Mandated Projects	\$14,492.5	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and	\$18,870.3	\$19,198.1	\$20,024.6	\$826.5

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Operations				
Homeland Security-Critical Infrastructure Protection	\$0.0	\$0.0	\$1,102.9	\$1,102.9
Homeland Security-Preparedness, Response and Recovery	\$820.5	\$0.0	\$910.2	\$910.2
Homeland Security-Protect EPA Personnel/Infrastructure	\$0.0	\$0.0	\$600.0	\$600.0
Lead	\$342.2	\$339.6	\$349.5	\$9.9
Legal Services	\$5,487.3	\$5,973.1	\$6,184.5	\$211.4
Management Services and Stewardship	\$4,503.9	\$4,568.7	\$5,305.1	\$736.4
Nitrogen Oxides	\$1,325.5	\$1,399.0	\$1,436.9	\$37.9
Ozone	\$68,455.1	\$77,498.8	\$69,497.9	(\$8,000.9)
Particulate Matter	\$52,302.7	\$62,624.3	\$74,787.8	\$12,163.5
Particulate Matter Research	\$65,468.2	\$66,662.0	\$65,709.4	(\$952.6)
Planning and Resource Management	\$0.0	\$0.0	\$929.3	\$929.3
Regional Haze	\$2,535.9	\$2,408.1	\$2,453.8	\$45.7
Regional Management	\$349.5	\$310.1	\$650.2	\$340.1
Sulfur Dioxide	\$12,318.5	\$13,624.7	\$14,102.2	\$477.5
Tropospheric Ozone Research	\$6,514.8	\$6,758.1	\$7,024.0	\$265.9

FY 2004 Request

Under the Clean Air Act (CAA), EPA must set and periodically review National Ambient Air Quality Standards (NAAQS) for six major pollutants that endanger human health and the environment, and originate from numerous and diverse sources. States and tribes must then develop and implement plans to meet the standards. The pollutants are: particulate matter (PM), ground-level ozone (smog), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), carbon monoxide (CO), and lead. EPA's comparative risk analyses ranked these six pollutants as high-risk for health and environmental effects. Children, the elderly, and persons with heart or lung diseases are especially susceptible to health effects. Fine particulate matter (PM_{2.5}) is linked with numerous health effects including increased symptoms or hospitalization for heart or lung disease and even premature mortality. Exposure to ozone causes lung inflammation and can aggravate respiratory diseases such as asthma. Ozone, at any concentration, impairs functioning of the lungs in healthy people, as well as in those with respiratory problems. Ozone also affects ecosystems, with an estimated \$2-3 billion lost annually to crop damage.

For a person with heart disease, a single exposure to CO at low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. Exposure to lead may cause neurological impairment, mental retardation, behavioral disorders and, in extreme cases, death. The major health concerns associated with exposure to high concentrations of SO₂ include effects on breathing, respiratory illness, alterations in pulmonary defenses, and aggravation of existing cardiovascular disease. NO₂ can cause respiratory symptoms such as coughing, wheezing, and shortness of breath in children and adults with respiratory disease such as asthma.

Strategy

America has made great progress in reducing air pollution. Over the last three decades, air pollution has declined by 25 percent, while our economy has grown over 160 percent. These gains have provided cleaner air for millions of people. Our understanding of science, technology and markets has improved since the Clean Air Act was passed in 1970. We know more about the best and most cost-effective ways to reduce pollution.

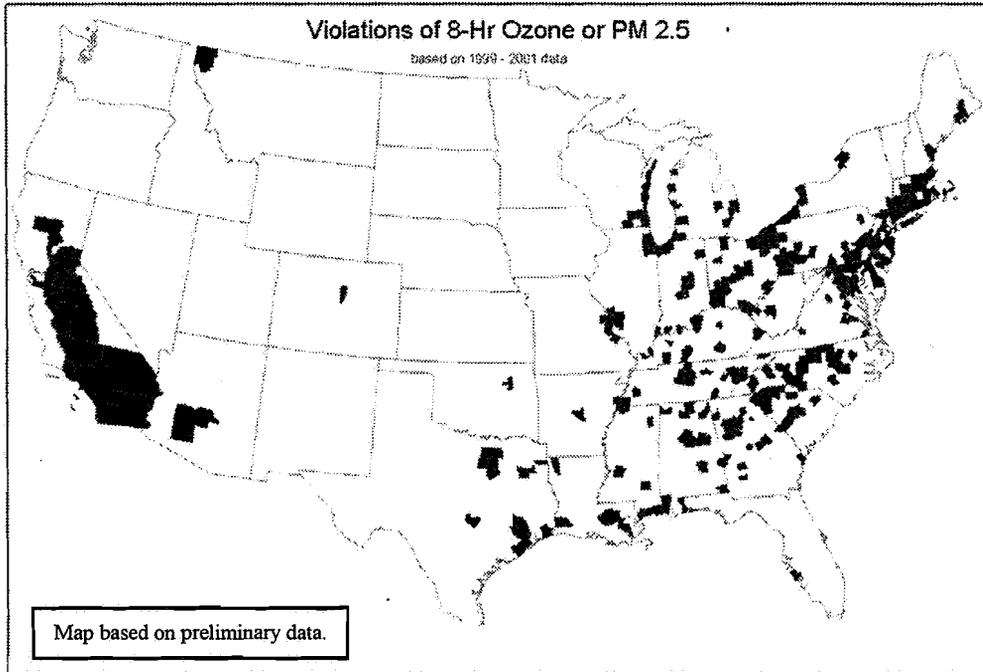
In achieving clean air for all Americans, EPA has three overall program goals:

1. improve air quality and address highest risks, while reducing program costs;
2. get better results in less burdensome ways; and
3. increase the role for state, Tribal, and local governments.

EPA's strategy for achieving clean air includes a comprehensive, multi-pollutant approach with President Bush's proposed Clear Skies Act as a key element. EPA's NAAQS program will focus on implementation of the standards for PM_{2.5} and ozone issued in 1997. EPA has estimated that attaining these standards will result in up to \$100 billion in annual health and welfare benefits. This includes the value attributable to thousands of avoided premature deaths, 7,500 avoided cases of chronic bronchitis, and tens of thousands of avoided hospital admissions for respiratory and pulmonary causes per year. EPA will provide a reassessment of these benefits in conjunction with the proposed decision on whether to retain or revise the NAAQS for PM.

EPA anticipates that programs in place will result in a number of areas making progress toward attainment of the PM_{2.5} and 8-hour ozone standards. For ozone, preliminary 1999-2001 data indicate there are 302 counties in the United States with monitors showing air quality in violation of the 8-hour standard (1997-1999 data indicated 333 counties in monitored violation). As a result of enactment and implementation of the Clear Skies Initiative, by the year 2010, we anticipate 232 of those counties will attain the standard, leaving only 70 counties predicted to monitor violation of the 8-hour standard. For PM_{2.5}, preliminary 1999-2001 data indicate there are 129 counties in the United States with monitors showing air quality in violation of the PM_{2.5} standard (1999-2000 data indicated 173 counties monitoring violation). With Clear Skies, 141 of these counties are expected to attain the standard by 2010. The President's proposed Clear Skies Act would bring 10 additional counties into attainment with the 8-hour ozone standard in 2010 and an additional 34 counties into attainment with the PM_{2.5} standard. Furthermore, Clear Skies

provides flexible and cost-effective compliance with results guaranteed by caps instituted over a period of time. The initiative eliminates costly regulation, litigation, inspection, and enforcement actions while guaranteeing results with compliance rates similar to those of the Acid Rain program, which has compliance rates of nearly 100 percent.



Air quality monitoring is essential to providing a firm scientific basis for designing the national clean air program and measuring the results of Federal, state, Tribal, and local efforts. EPA will continue to oversee the national air quality monitoring network. The Agency is working with states, tribes, and local agencies to develop an integrated ambient monitoring strategy that will refocus the existing air monitoring program to current data collection needs for ozone, PM, and air toxics. This national monitoring strategy will provide agencies with more flexibility in designing their networks. To ensure source and ambient monitoring measurements are credible, EPA will continue developing quality assurance protocols and conducting quality assurance audits.

Particulate Matter (PM)

PM can cause adverse affects to human health and the environment. Particles that are small enough to get into the lungs (those less than or equal to 10 micrometers in diameter) can cause numerous health problems and have been linked with illnesses and deaths from heart and lung diseases. Various health problems have been associated with long-term exposures as well as daily exposures to particles. Particles can aggravate respiratory conditions, such as asthma and bronchitis, and have been associated with cardiac arrhythmias (heartbeat irregularities) and heart attacks. Particles of concern can include both fine and coarse-fraction particles, although fine particles have been more clearly linked to the most serious health effects. When exposed to elevated levels of fine PM, people with existing heart or lung diseases—such as asthma, chronic obstructive pulmonary disease, congestive heart disease, or ischemic heart disease—are

particularly vulnerable and are at increased risk of premature death or admission to a hospital or emergency room. PM_{2.5} can increase susceptibility to respiratory infections and aggravate existing respiratory diseases, such as asthma and chronic bronchitis, causing increased medication use and increased doctor visits. Fine particles have also been linked to adverse effects on the environment and contribute to reduced visibility (also known as regional haze), and to acid deposition. Particulate matter also can cause deterioration in paints and building materials, and can have adverse impacts on vegetation and ecosystems.

PM_{2.5} can be directly emitted or can be formed in the air when gases such as SO₂, NO_x, and VOCs interact with other compounds to form fine particles. Fine particles in most United States cities are generated by combustion sources (motor vehicles, power plants, woodstoves, wildfires, agricultural burning, etc.) and some industrial processes. Coarser dust particles are generated by operations such as crushing and grinding, and dust from paved or unpaved roads.

PM NAAQS Implementation

PM_{2.5}, ground-level ozone, and regional haze have many similarities. The similarities provide opportunities for integrated strategies for reducing pollutant emissions in the most cost-effective ways. Both PM and ozone -- and the resulting regional haze -- are subject to long-range transport that can affect broad areas of the country. NO_x and volatile organic compound (VOC) emissions both contribute to formation of PM_{2.5} and ozone. The same types of sources emit these pollutants.

EPA's strategy for meeting the ozone and PM NAAQS includes national programs for reducing emissions from electric utilities and mobile sources and state, Tribal, and local programs for reducing emissions from other sources. EPA, working with its state, Tribal, and local partners, will develop and issue the policies, rules, guidance, and technical tools needed to begin implementation of the PM_{2.5} standard and the 8-hour ozone standard, and continue implementation of the PM standard for particles with a diameter of 10 micrometers or smaller (PM₁₀). EPA's strategy for regional haze is to work with multi-state planning groups to develop strategies for reducing haze and with individual states to develop implementation measures to reduce emissions of PM and ozone precursors.

The Agency also will work with states, tribes, and local governments to implement voluntary and innovative programs focused on local problems. With new research showing an even stronger link between PM exposure and health impacts, EPA will take steps to reward state, Tribal, and local governments and businesses that take early action to reduce air pollution levels through cost-effective approaches and those who address pollution that travels across jurisdictional lines. EPA will work with states and tribes to develop innovative strategies and control programs that employ regulatory flexibility to minimize economic impacts on businesses to the greatest possible degree consistent with protecting human health and the environment

A major focus of the PM program in FY 2004 will be to complete the assessment of PM_{2.5} as it moves from point, area, and mobile sources and source regions to downwind areas and to identify major contributing sources of precursor pollutant emissions (e.g., SO_x, NO_x). Among the large point sources of emissions, electric utilities are a primary contributor. The need for further emission reductions from the power sector is one of the primary reasons for the

President's legislative proposal on the Clear Skies Initiative that was introduced in Congress in July 2002.

Clear Skies Initiative

The Clear Skies Initiative will take the best of what we have learned and modernize the existing Clean Air Act. Using a market-based approach, the Clear Skies Initiative will dramatically cut power plants' emissions of three of the worst air pollutants – sulfur dioxide (SO₂), nitrogen oxides (NO_x), and mercury (Hg). Reductions in SO₂ and NO_x emissions also will reduce airborne PM_{2.5}. EPA's approach builds upon the success of the acid rain cap-and-trade program created in 1990. The acid rain program has reduced more pollution in the last decade than all other Clean Air Act command-and-control programs combined, and achieved these reductions at two-thirds of the cost.

The Clear Skies Initiative, as proposed, will achieve substantially greater reductions in air pollution from power plants, more quickly, and with more certainty than the existing Clean Air Act. The initiative requires mandatory cuts of SO₂, NO_x, and Hg by an average of 70% from today's levels and ensures that these levels are achieved and sustained through caps on emissions. The types of tools and assessments that the Agency would need to develop to implement the initiative and assist states include:

1. **Prepare the data and tools for implementing the initiative:** Design a cap-and-trade program and develop implementing tools and mechanisms
2. **Support the initiative rules with technical and economic analyses:** Determine control technology options and investigate the regulatory impacts on the US economy, environment, small business, and local communities.
3. **Develop baselines and prepare to assess program benefits:** Establish an integrated assessment program to include enhanced ambient and deposition monitoring and develop a baseline prior to implementation of the program.
4. **Ensure the program's credibility and results:** Successful trading programs require accurate and consistent monitoring of emissions from affected sources. Investigate monitoring alternatives (particularly as they relate to mercury), propose performance specifications, and develop mercury monitoring protocols.

Clear Skies, as currently proposed, is projected to bring a significant number of counties into attainment of the PM_{2.5} and 8-hour ozone standards by 2010, and even more by 2020. Benefits to human health are projected to range from \$11 billion to \$100 billion annually by 2020, due primarily to avoided premature deaths. In addition, emission reductions resulting from the Clear Skies will help to significantly address several other of our nation's major air pollution-related environmental problems caused by fine particles, ozone, acid rain, nitrogen deposition, and visibility impairment. Visibility benefits in select national parks and wilderness areas are projected to be up to \$3 billion annually. Clear Skies offers the opportunity to significantly reduce the collective cost to the state and Federal environmental agencies of developing and

implementing programs to address PM_{2.5} and regional haze issues, not to mention the cost of regulated entities under the current Clean Air Act programs.

Other PM Strategies

EPA will also review and propose the attainment/nonattainment area designation recommendations from the states and tribes. The Agency will complete the implementation rule that will guide the states and tribes in the development of their implementation plans. EPA also will work with states and local areas to develop control strategies to reduce emissions of PM_{2.5} and its precursors. The focus will be on early reductions and innovative strategies that can provide the nation with public health benefits sooner.

In FY 2004, EPA will continue to provide technical support to the states and tribes through development of the national monitoring strategy, source characterization analyses, emission factors and emission inventories, statistical analyses and source apportionment techniques, quality assurance protocols and audits, and improved source testing and monitoring techniques. These tools will help implement and assess the effectiveness of alternative control strategies on local and regional air quality.

EPA also will continue to work with the United States Department of Agriculture (USDA) to develop a data system to develop and link wildland and prescribed fire emission tracking systems and supporting databases used to assess air quality impacts and improve emission models. EPA acknowledges the use of fire as an efficient and economical land management tool in maintaining the health of fire-tolerant and fire-dependent plant and animal ecosystems. EPA continues to work with Federal land management agencies to address the effective use of fire as a land management tool, while minimizing public health and air quality impacts. EPA also continues to work with USDA and the Department of the Interior to include EPA data needs in the national fire database. EPA collaborates with the Departments of Agriculture and Interior on identifying and developing innovative information technologies to provide the land management community with tools to improve burn planning and air quality management.

PM Controls from Mobile Sources

Projected increases in the number of individual mobile sources and in motor vehicle travel may increase future emissions of PM_{2.5} and its precursors. The Agency will continue to seek further reductions in motor vehicle emissions to attain and maintain the NAAQS for PM through the review of current motor vehicle and fuel standards and the development of new programs. Heavy-duty trucks and buses today account for one-quarter of PM_{2.5} emissions from mobile sources. In some urban areas, the contribution is even greater. In FY 2001, EPA promulgated new diesel fuel standards and heavy-duty vehicle and engine standards that will significantly reduce emissions from diesel trucks and buses. The new program will result in PM emission levels 90 percent below 2000 levels. By 2030, the program will reduce annual emissions of PM by 109,000 tons. In FY 2004, the Agency will be implementing these standards, including assessing the development of new emission control technology. In addition, EPA will promulgate in FY 2004 new emission standards for heavy-duty, nonroad diesel

engines, including new diesel fuel sulfur requirements. This is an extremely important action as nonroad engines are the biggest contributors to the PM emission problem from mobile sources.

In FY 2004, EPA will expand its efforts to help create voluntary diesel retrofit projects to reduce PM from older, high-polluting trucks and buses. The Agency will focus its efforts on sensitive populations, such as children and the elderly. EPA will give particular emphasis to raising community awareness to the problems of children riding to school in older, high-emitting diesel vehicles. More than 24 million children in the US ride a bus to and from school every day. Researchers have found that children riding on school buses can be exposed to high levels of diesel exhaust. Idling school buses can compromise air quality on and around buses, including sidewalks, schoolyards, playgrounds, and even inside school buildings. School buses can be retrofitted with pollution controls through the use of ultra-low sulfur diesel fuel and the installation of PM filters. This approach can reduce PM emissions by more than 90 percent. Other strategies include anti-idling programs, which lower bus idling time and reduce harmful emissions. Although EPA recently promulgated new rules regulating diesel emissions, the benefits of these rules will not be realized for at least five years. In the meantime, older, dirtier vehicles, often on the road for a million miles or more, will continue to adversely affect the nation's health. To date, voluntary diesel retrofit projects have resulted in over 80,000 commitments to retrofit diesel engines, equivalent to reductions of approximately 12,500 tons of PM and 25,000 tons of NO_x. During FY 2002, through this program, EPA worked with fuel companies to begin delivering ultra-low sulfur diesel fuel to centrally fueled fleets throughout certain parts of the country - four years before it is required. EPA has also developed several emissions testing protocols that will provide potential purchasers of emission control technology a consistent, third party evaluation of emission control products. EPA has developed partnerships with state and local governments, industry, and private companies to create project teams to help fleet owners create the most cost-effective retrofit programs.

To address the concern of idling trucks at truck stops and other rest areas, EPA will continue to develop partnership agreements with truck fleets, the truck stop industry, manufacturers of idle control technologies, and local and state governments to create incentives for implementation of idle control technologies, and remove barriers that truckers have identified. Idling strategies will be used in conjunction with other programs in EPA's Green Transport Initiative to help the trucking industry achieve substantial fuel savings and emission reductions. The long-term emission reductions from these demonstration projects alone will result in fewer cases of premature death, hospitalization, and respiratory problems.

In FY 2004, EPA will continue implementing other mobile source programs addressing PM emissions. The emission standards for locomotives, which will result in more than 40 percent reduction in PM, began in 2000 (Tier 0). Tier I standards took effect in FY 2002 and Tier II standards will take effect in FY 2005. In FY 2004, the Agency will continue to evaluate certification test data to ensure that locomotive designs comply with standards.

An important element of the Agency's work in controlling air emissions is to ensure the accuracy of emission data from the different categories of mobile sources. In FY 2000, the Agency increased its focus on development of a portable emissions measurement system (PEMS) that will allow the Agency to acquire in-use emission data in a cost-effective manner. From FY 2001 to FY 2003, EPA refined its in-use NO_x measurement capability and developed

its PM measurement capability. In FY 2004, EPA will continue the testing and development of this system to include air toxics measurement capability. The Agency plans to continue using this portable system to characterize in-use emissions from light-duty vehicles, heavy-duty highway vehicles, and nonroad equipment.

Improving EPA models is another area that the Agency will address in FY 2004. EPA has started the development of an architectural framework for a new generation model that will greatly improve the Agency's ability to support the development of emission control programs, as well as provide support to the states in their determination of program needs to meet air quality standards. The Agency will continue to develop the new model in FY 2004. The Agency also will continue providing guidance and training in the use of other mobile source models.

Ozone

Ozone at any concentration can affect normal functioning of the lungs in healthy people, as well as in those with respiratory problems. Relatively low amounts of ozone can cause coughing, shortness of breath, and pain, especially when taking a deep breath. Ozone also can worsen incidence of chronic lung diseases and is associated with increased medication use, visits to emergency rooms, and hospital admissions. Ozone can inflame and damage the lining of the lung. Within a few days, the damaged cells are shed and replaced. Animal studies suggest that if this type of inflammation happens repeatedly over a long time period (e.g., months, years, a lifetime), lung tissue may become attenuated or permanently scarred, causing reduced lung elasticity, permanent loss of lung function, and a lower quality of life. More people are exposed to unhealthful levels of ozone in outside ambient air than to any other air pollutant. EPA estimates that meeting the new 8-hour ozone standard will protect 13 million more children living in areas where unhealthful levels of smog occur than under the less stringent 1-hour ozone standard.

Adverse ecosystem effects are also known to occur for various species of vegetation and are likely to extend to entire ecosystems. Ozone damage to plants is widespread with potentially significant impacts on commercial crops of wheat, corn, soybeans, cotton, and commercial forestry.

Ozone is not emitted directly into the air but is formed by the reaction of VOCs and NO_x in the presence of heat and sunlight. Ground-level ozone forms readily in the atmosphere, usually during hot summer weather. VOCs are emitted from a variety of sources, including motor vehicles, chemical plants, refineries, factories, consumer and commercial products, and other industrial sources. NO_x are emitted from sources of combustion like motor vehicles, power plants, and industrial boilers. NO_x and VOC emissions can be carried hundreds of miles from their origins and result in high ozone concentrations over very large areas of the country. This "transport" often affects the ability of states to attain the NAAQS through traditional State Implementation Plan (SIP) programs. To address this persistent and widespread problem, EPA will assure compliance under the NO_x SIP Call that is expected to reduce total summertime emissions of NO_x by about 25 percent beginning in FY 2004 in the affected 22 states and the District of Columbia.

In FY 2003, EPA will propose a rule for implementing the 8-hr ozone NAAQS and in FY 2004 plans to publish a final rule. States and tribes will submit recommendations for nonattainment and attainment areas in FY 2003. EPA will review and modify the recommendations (working with states and tribes) and prepare final designation rulemaking, which is scheduled to be completed in FY 2004.

In support of the states and tribes, EPA will continue to analyze ambient monitoring data to provide insight into how ozone precursors and toxic pollutants contribute to the ozone problem, evaluate pollutant management programs, develop emissions inventories to determine the most important sources of emissions, and conduct modeling to develop alternative national and/or local control strategies to attain the ozone standard. EPA, states, tribes, and Regional Planning Organizations will work collaboratively in developing and improving urban and regional-scale numerical grid models and evaluating their accuracy and applicability to complex air quality issues including international/border issues.

Ozone--New Innovative Strategies and Programs

EPA will work directly with areas having the greatest problem in meeting the standards and use new innovative approaches to achieve early emission reductions. These programs have the potential to provide substantial public health benefits as a result of early planning, implementation, and emissions reduction leading to expeditious attainment and maintenance of the ozone NAAQS. This would result in fewer incidences of illness, doctors' visits, and hospitalizations as a result of respiratory problems, particularly in susceptible populations.

Early Action Compacts for implementing the 8-hour ozone standard will play an important role in the national ozone management program for FY 2004. The purpose of this program is to support and reward voluntary, early emission reductions to reduce ozone around the country. Through these Early Action Compacts, EPA is supporting the innovative efforts of 34 communities around the country that have pledged to reduce air pollution ahead of the deadlines under the CAA. Communities with Early Action Compacts will voluntarily start reducing air pollution ahead of schedule. These communities will bring substantial, sustainable health and environmental improvements to their residents much sooner than would have been achieved without these agreements.

EPA will support the "cool cities" programs that show local governments how to reduce the polluting effects of heat build-up in cities and offer them regulatory credit for doing so. EPA will work in other areas of the country, such as Los Angeles, Chicago and Baton Rouge, by providing guidance and technical support for determining potential emission reduction benefits from implementation of heat island reduction strategies.

EPA will continue to work with the States of North Carolina (NC) and South Carolina (SC) and local officials in the Charlotte, NC/Rock Hill, SC region to develop a model integrated air quality plan for the Central Carolinas Region. EPA's goal for the pilot project is to integrate efforts to address multiple air quality problems -- ground-level ozone, particulate matter, and toxic air pollutants -- as well as energy, transportation, economic development, and land-use planning into a single, model plan that can be used in different areas across the country. EPA will provide technical support in air quality planning, transportation planning, modeling for

criteria pollutants and air toxics, and decision support tools for testing various options for integrated planning for clean air.

In FY 2004, EPA plans to finalize a new policy for the control of VOCs. The policy will assign individual reactivity values, controlling the most reactive compounds more stringently, providing a more cost effective approach to reducing ozone levels from VOC precursors.

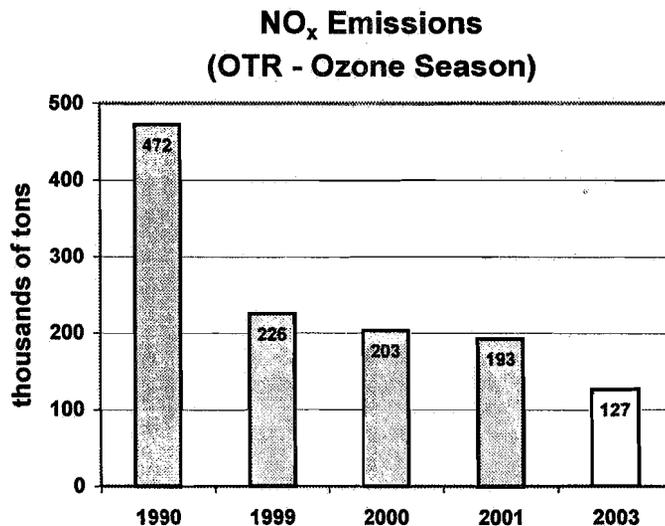
1-hour Ozone Standard

EPA will continue to implement the national program for the 1-hour ozone standard. EPA will provide technical support to states required to submit mid-course reviews in 2004. This includes preparing example model applications, 10-year trends analyses, and other factors that can be used as part of weight-of-evidence relative to demonstrating progress in attainment. EPA also will work with states required to submit SIP revisions based on the MOBILE6 model for estimating emission reductions from the Tier II vehicle standard.

EPA will review 1-hour data for the purpose of publishing determinations of attainment and to support redesignation from nonattainment. Where air quality data show that a nonattainment area has failed to meet its required attainment date, EPA will implement the reclassification provisions in the CAA. In FY 2004, EPA plans to promulgate new general conformity regulations to address issues raised by other Federal agencies.

Ozone--NO_x Regional Transport Budget Programs

EPA will continue to operate the Ozone Transport Commission's (OTR) NO_x emission reduction and trading program for the Northeast states (9 states plus DC). The OTR NO_x Budget Program went into effect in the summer of 1999. In the 2001 ozone season, NO_x emissions were reduced over 250,000 tons (or 60%) from the 1990 baseline. This program currently is the core effort to attain the NAAQS for ozone in the OTR and serves as the foundation upon which the broader regional NO_x Budget Program (22 states plus DC) under the NO_x SIP Call is based.



Implementation of the NO_x SIP Call rule begins in 2004 for many states. EPA will assist the states with implementation, especially related to the emissions trading program, compliance supplement pool and monitoring, and will fully integrate it with the operation of the OTR trading program. During the 2003 and 2004 ozone seasons, EPA will conduct an analysis to assess and determine the actual emission reductions achieved. EPA will assist states in FY 2004 as they develop and adopt state rules in response to the Phase II NO_x SIP Call that is to be finalized in

FY 2003. The initial emission reductions from this regional program are required to begin in the summer ozone season of 2004. NO_x emission reductions from this program are projected to be approximately one million tons per season. EPA will also conduct an analysis to assess and determine the actual emission reductions achieved during the 2003 and 2004 ozone seasons. EPA will assist states in FY 2004 as they develop and adopt state rules in response to the Phase II NO_x SIP Call that is expected to be finalized in FY 2003.

Ozone Controls from Mobile Sources

To help attain both the 1-hour and 8-hour ozone NAAQS, the Agency will implement current motor vehicle and fuel standards and develop new programs. In 1996, light-duty vehicles (LDVs) and light-duty trucks (LDTs) contributed more than 25 percent of hydrocarbon (HC) emissions and 22 percent of national NO_x emissions. To address this, the Agency promulgated in FY 2000 the Tier II program for LDVs/LDTs to begin in 2004 and phasing-in to 2010. This program established new tailpipe standards for all passenger vehicles and new limits for sulfur in gasoline. The new standards will reduce NO_x emissions by 74 percent (2 million tons per year by 2020 and nearly 3 million tons per year by 2030). In FY 2004, EPA will begin to fully implement the new Tier II standards for LDVs, LDTs, and medium-duty passenger vehicles as well as the new low sulfur gasoline standards.

Heavy-duty trucks and buses also contribute to the nation's air quality problems, accounting for about one-third of NO_x emissions from mobile sources. To address this problem, the Agency has promulgated standards for heavy-duty vehicles and engines. The first phase of the program (promulgated in FY 1997 and reaffirmed in FY 2000) takes effect with model year 2004 and requires gasoline trucks to be 78 percent cleaner and diesel trucks to be more than 40 percent cleaner than today's models. This phase will reduce NO_x emissions by 2.4 million tons annually when the program is fully implemented in 2030. As a result of a consent decree agreement, many diesel engine companies had to comply in October 2002. In FY 2001, EPA promulgated a second phase of standards that established a comprehensive national program that will regulate engines for trucks and buses and diesel fuel as a single system, with the new emission standards taking effect in 2007. The level of sulfur in highway diesel fuel will be reduced by 97 percent by mid-2006. As a result of this program, each new truck and bus will be more than 90 percent cleaner than current models resulting in a reduction of 2.6 million tons per year of NO_x emissions by 2030. In FY 2004, the Agency will continue work to implement the new 2007 heavy-duty highway engine and diesel sulfur requirements. This includes continued assessment of the development of clean engine and fuel technology to meet our commitment of biennial technology reviews to evaluate progress toward implementation of the 2007 standards.

Because of the projected emission reductions from the Agency's mobile source programs described above (for LDVs/LDTs and heavy-duty trucks and buses), emissions from the nonroad sector will be the largest part of the mobile source inventory to be addressed in the coming years. Thus, the Agency is developing a program to establish new standards for heavy-duty nonroad diesel engines (e.g., engines used in construction and agricultural applications), including new sulfur requirements for nonroad diesel fuel. A final rule for nonroad engines and fuel is planned for 2004.

The Agency's National Vehicle and Fuels Emissions Laboratory (NVFEL) provides critical support to EPA, the states, the fuels industry, the automobile industry, and nonroad engine manufacturers by testing vehicles and engines for compliance with Federal clean air standards. The NVFEL will continue to conduct vehicle emission tests as part of the pre-production tests, certification audits, in-use assessments, and recall programs to support mobile source clean air programs. Tests are conducted on motor vehicles, heavy-duty engines, nonroad engines, and fuels to: (1) certify and/or confirm that vehicles and engines meet Federal air emissions and fuel economy standards; (2) ensure engines comply with in-use requirements; and (3) ensure fuels, fuel additives, and exhaust compounds meet Federal standards. In FY 2004, EPA will continue to conduct testing activities for fuel economy, LDV and heavy-duty engine characterization, Tier II testing, reformulated gasoline, future fleets, on-board diagnostic (OBD) evaluations, certification audits, and recall programs. EPA will also continue to conduct separate in-use testing on heavy-duty diesel engines to ascertain compliance with consent decrees related to violations of defeat device prohibitions and will expand its in-use presence to include non-consent decree engines and nonroad diesel engines as well. EPA will continue to test heavy-duty diesel engines to support implementation of 2007 requirements, non-road diesel engine rulemaking activities, and development of Portable Emission Measurement Systems (PEMS). In addition, NVFEL will conduct energy efficiency tests of electric vehicles, including hybrids, in collaboration with the Department of Energy, as well as nonroad vehicle emission testing in support of non-road regulatory development. EPA also will continue testing hydrogen fuel cell vehicles.

To support on-going confirmatory and compliance programs, the NVFEL will conduct certification and fuel economy tests on LDV, LDT, and Light-Heavy Duty Vehicles (LHDV) and will conduct compliance tests on in-use LDVs and LDTs. NVFEL will also test LDV and heavy-duty engines for regulatory development.

The new Tier II (ultra-low emission vehicle standards) program and the CAP 2000 in-use verification program requirements will increase the annual costs of generating and maintaining compliance program data. These programs will create a completely new and different standards structure. The new Tier II program provides great flexibility including corporate fleet averaging standards, multi-year phase-in, and incentives for early innovation and extensive banking and trading provisions. These provisions give manufacturers flexibility, but increase the EPA program compliance program costs. EPA also intends to propose and finalize new durability provisions under the CAP 2000 program, in response to a D.C. Circuit Court of Appeals decision in FY 2002 that instructed the Agency to establish test methods and procedures by regulation.

Beginning in 2003-2004, manufacturers will shift product offerings toward extremely low emitting vehicles and cleaner diesel vehicles. Furthermore, new Federal test procedures to measure emissions over test cycles to characterize the appropriate acceleration rates, accessory loads, and evaporative system will take effect in 2003. These new requirements will require the NVFEL laboratory to achieve greater data measurement stability/accuracy at extremely low levels and to introduce new testing cycles and capabilities, resulting in increased annual operations and maintenance expenses for advanced testing systems and testing flexibilities. The new CAP 2000 database system to collect, process, store, and analyze a large volume of in-use data provided by the regulated industry also will result in new annual maintenance and upgrade

costs. The regulated industry depends on NVFEL laboratory accuracy to benchmark its own laboratories and to ensure consistent compliance stringency in the marketplace.

To ensure achievement of the goals of the CAA through Tier II and the 2004/2007 Heavy-Duty Diesel Engine standards, EPA will complete its equipment upgrade of vehicle and engine testing capabilities at the NVFEL. With more stringent Tier II and Diesel standards for cars, heavy duty diesel engines, and gasoline and diesel fuels taking effect beginning in FY 2004, EPA will incur increased certification and compliance program costs of \$8.0 million annually. The Agency has published a Notice of Proposed Rulemaking (NPRM) to increase the fees paid by manufacturers to cover these additional costs associated with the new services.

EPA must also put in place a credible compliance testing program to serve heavy-duty engine manufacturers certifying to the new 2004 emission standard requirements. This program must be as robust as the compliance program for light duty cars and trucks to prevent a recurrence of the cheating that has taken place in the past. All facility and testing operations and maintenance costs, as well as quality, safety, and information technology costs are part of the new recurring \$8.0 million certification and compliance program costs. Heavy-duty engine manufacturers have requested that EPA establish a correlation program similar to the vehicle manufacturers' program. This will triple the size and operation of EPA's current correlation program.

In addition, non-road sources are a major certification and compliance workload priority as new standards are now taking effect. In 2004, EPA will issue 1,700 certificates for nonroad sources, up from zero in 1996. This will significantly increase program and testing costs. In FY 2002, EPA proposed the fee rule; we anticipate the rule will be finalized in late FY 2003. The proposed rule includes fees that for the first time will recover the costs of providing compliance services to off road engine manufacturers. Unique test procedures and range of products drive different testing, facility operation, and information technology costs to collect and process data and to calculate emissions levels.

For all mobile source industries, EPA will need to increase compliance and technical assistance. Since 1996 the number of manufacturers and the number of certificates issued by EPA has tripled. Complex requirements, phase-ins, and new test procedures have greatly increased the need for EPA-provided compliance and technical assistance to all mobile source industries including: cars, trucks, large and small nonroad equipment, forklifts, chainsaws, lawnmowers, generators, ground service equipment, recreational vehicles, commercial and recreational marine, and locomotives.

The ability to perform these tests will ensure fulfillment of the goals of the CAA to protect the health of all Americans. EPA calculates that, by 2030, compliance with the final Tier II rule will prevent as many as 4,300 deaths, more than 10,000 cases of chronic and acute bronchitis, and tens of thousands of respiratory problems a year. The emission reductions resulting from the Heavy-Duty Engine Regulations will prevent as many as 8,300 premature deaths, more than 9,500 hospitalizations, and 1.5 million workdays lost. With both ozone and PM, children and the elderly are most at risk.

In FY 2002, EPA finalized regulations addressing emissions from a range of nonroad sources, including industrial spark-ignition engines (e.g., forklifts and generators), recreational vehicles, and recreational marine engines. The new standards are expected to reduce hydrocarbon (HC) and NO_x emissions by nearly 80 percent when fully implemented. In FY 2004, the Agency plans to implement the new standards for commercial marine diesel engines used in ocean-going vessels.

EPA will continue implementing other mobile source programs addressing ozone precursor emissions. The first two phases of emission standards for locomotives, which will result in more than a 60 percent reduction in locomotive NO_x emissions, were implemented in 2000 and 2002, respectively. The next phase of locomotive standards will take effect in 2005. In FY 2004, the Agency will continue to evaluate certification test data to ensure locomotive designs comply with standards.

Another recent program that EPA will continue implementing in FY 2004 is the Phase II standards for small spark-ignition handheld engines (e.g., trimmers, brush cutters, and chainsaws). The phase in schedule of these new standards began with the 2002 model year. This program will reduce HC and NO_x emissions by 70 percent. This is equivalent to an annual reduction of 500,000 tons of HC and NO_x by 2027. This reduction is accompanied by an overall reduction in fuel consumption.

An important element of the Agency's work in controlling air emissions is to ensure emission data is obtained from the different categories of mobile sources. In FY 2000, the Agency increased its focus on the development of a PEMS that will allow the Agency to acquire in-use emission data in a cost-effective manner. From FY 2001 to FY 2003, EPA refined its in-use NO_x measurement capability and developed its PM measurement capability. In FY 2004, EPA will continue to test and develop the complete system to include air toxics measurement capability. The Agency plans to continue using portable systems to characterize in-use emissions from light-duty vehicles, heavy-duty highway vehicles, and nonroad equipment. The newly acquired emission data will enhance EPA's emission models.

The Agency also will emphasize improvements in its transportation emission models in FY 2004. EPA has developed an architectural framework for a new generation model that will greatly improve the Agency's ability to support the development of emission control programs, as well as provide support to the states in their determination of program needs to meet air quality standards. The Agency will continue developing the new transportation emission model in FY 2004, as well as providing guidance and training in the use of other mobile source models.

EPA will partner with states, tribes, and local governments to create a comprehensive compliance program to ensure that vehicles and engines pollute less. EPA will use advanced in-use measurement techniques and other sources of in-use data to monitor the performance of OBD systems on vehicle models to make sure that OBD is a reliable check on the emissions systems as part of vehicle Inspection and Maintenance (I/M) programs. In FY 2003, basic and/or enhanced vehicle I/M testing was being performed in 34 states with technical and programmatic guidance from EPA. In FY 2004, EPA will continue to assist states in incorporating On-board Diagnostic (OBD) inspections into their I/M programs. EPA will also support states in evaluating I/M programs, as directed by the CAA and recommended by the National Academy

of Sciences. With this information, EPA will work to establish an integrated information system that allows for assessment and action on those vehicles and engines that present the greatest environmental risk.

As part of implementing the ozone standard and regional haze rule, EPA will continue to provide assistance to states and local governments, including implementation of the transportation conformity regulation. EPA also plans to propose and finalize changes to this regulation to address new air quality standards. EPA will continue to ensure national consistency in adequacy findings for motor vehicle emissions budgets in air quality plans. In addition, EPA will work with states and local governments to ensure the technical integrity of the mobile source controls in the SIPs. EPA will assist areas in identifying the most cost-effective control options available.

EPA will continue to develop partnerships that emphasize the development of innovative transportation control and technology-based strategies and voluntary mobile source programs. The Agency will continue providing technical guidance for implementing the National Low Emission Vehicle program.

The Agency will continue implementing Phase II of the reformulated gasoline (RFG) program, which will result in additional HC, NO_x, and toxic emission reductions in 17 states and the District of Columbia. RFG is designed to substantially reduce vehicle emissions of ozone-forming and toxic pollutants, which is estimated to reduce VOC emissions by 27 percent, toxic emissions by 22 percent, and NO_x emissions by 6.8 percent. This is the equivalent of taking 16 million vehicles that burn conventional gasoline off the road. EPA will continue to address issues associated with the use of oxygenates (e.g., MTBE and ethanol) in RFG and will review the industry's retail station survey plan.

The mobile source compliance program will oversee more than 225 original equipment manufacturers to ensure that vehicles and engines (both on-highway and nonroad) will meet the applicable emission standards throughout their useful life. The program issues nearly 2,200 certificates of conformity annually. Compliance is audited and ensured through pre-production certification and confirmatory testing, assembly line testing, various special audit programs, and in-use testing and recall. For light-duty vehicles and trucks, there also is a fuel economy compliance program, which in FY 2004 will issue 1,000 fuel economy consumer labels, data for the EPA/DOE Gas Mileage Guide and "gas guzzler" tax collection, and data to calculate the Corporate Average Fuel Economy (CAFE) values for all light-duty manufacturers.

Visibility

Visibility impairment, caused by the presence of tiny particles in the air, is more simply described as the haze that obscures the clarity, color, texture, and form of what we see. Because of regional variations in natural conditions, which combine with man-made pollution to produce regional haze, EPA believes that regional haze should be addressed through a region-specific program that accounts for these variations. EPA will continue supporting Regional Planning Organizations concerned with regional haze and PM impacts through the set up and application of regional scale models.

In July of 1999, EPA promulgated a Regional Haze rule to address this problem. On May 24, 2002, a decision by the DC Circuit Court vacated EPA's proposed Best Available Retrofit Technology (BART) requirements within the Regional Haze rule. As a result of this decision, BART guidelines are expected to be re-proposed in FY 2003, with a final rulemaking to be issued in FY 2004. The rulemaking will include guidance on determining individual facilities' contribution to haze versus cumulative contribution and on evaluating "reasonable progress" control strategies under the Regional Haze rule.

EPA will continue assisting states and tribes with regional scale models, including identifying meteorological and emissions inputs and developing emission projections. These model applications will provide the basis for assessing regional emission control strategies for PM_{2.5}, SIP and regional haze goals.

The strategies for improving visibility will provide additional health and welfare effects, since many of the pollutants that lead to visibility impairment also contribute to PM, ozone, and acidic deposition. EPA estimates that when the regional haze goals are fully achieved 60 years hence, these additional benefits, worth at least \$20 billion per year, will be realized.

Carbon Monoxide

CO is a colorless, odorless gas that enters the bloodstream and interferes with the delivery of oxygen to the body's organs and tissues. The health threat from exposure to low ambient concentrations of CO is most serious for those who suffer from cardiovascular disease. For a person with heart disease, a single exposure to CO at low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. Healthy individuals are also affected, but only at higher levels of exposure.

EPA is currently reviewing the NAAQS for CO and has completed the CO criteria document. The Agency anticipates continuing work on the staff paper in FY 2003. After taking into account CASAC review and public comment, EPA will propose a decision whether to retain or revise the standards.

In FY 2004, EPA will continue to assist states, tribes, and local agencies in implementing strategies to reduce CO, review data for redesignations to attainment, and assist states in developing plans, as necessary, to maintain compliance with CO standards.

Other Pollutants (Sulfur Dioxide, Nitrogen Dioxide, Lead)

Children and adults with asthma are most vulnerable to the health effects of SO₂ and NO₂. The primary effect they experience is a narrowing of the airways (called bronchoconstriction), which may cause symptoms such as wheezing, chest tightness, and shortness of breath. Symptoms increase as concentrations and/or breathing rates increase. Long-term exposure to both SO₂ and NO₂ can cause respiratory illness, alter the lung's defense mechanisms, and aggravate existing cardiovascular disease. In children, repeated short-term exposures to NO₂ can increase the risk of respiratory illness.

SO₂ converts to sulfates in the atmosphere and NO₂ is a strong oxidizing agent reacting in the air to form corrosive nitric acid as well as toxic organic nitrates. Both these pollutants have adverse effects on both terrestrial and aquatic ecosystems, contributing to acid rain and eutrophication of lakes and coastal waters.

Because NO₂ is a tropospheric ozone precursor, control of NO₂ is a way to reduce ozone. Both SO₂ and NO₂ form sulfates and nitrate aerosols, constituents of PM_{2.5}. Therefore, control of these pollutants is a way of reducing PM_{2.5}.

The D.C. Circuit Court of Appeals has remanded EPA's most recent decision not to revise the SO₂ NAAQS, asking EPA to further explain the criteria and basis of our decision. In a January 9, 2001 notice, EPA provided notice of availability of new 5-minute data and analyses of that data. In FY 2003, EPA will analyze the 5-minute monitoring data collected in FY 2002. Following this analysis, EPA will propose a response to the Court remand and then EPA will make a determination whether to finalize the intervention level program previously proposed. This program would give states guidance on identifying and addressing high, short-term peaks that occur for short durations (five minutes) and can cause bronchial constriction in asthmatics, a serious health concern. At that time, EPA will also consider this new information in determining an appropriate response to the court remand order.

Exposure to lead mainly occurs through inhalation of air and ingestion of lead found in dust, food, paint, water, or soil. Lead accumulates in the body in blood, bone, and soft tissue. Because it is not readily excreted, lead also can affect the kidneys, liver, nervous system and other organs. Excessive exposure to lead may cause kidney disease, reproductive disorders, and neurological impairments such as seizures, mental retardation, and/or behavioral disorders. Fetuses and children are especially susceptible to low doses of lead, often suffering central nervous system damage or slowed growth.

In large part due to the reduced use of leaded gasoline, human exposure to lead from ambient air has been greatly reduced. EPA will continue a relatively low level of existing work, emphasizing the few nonattainment areas near smelters. Mandating the use of unleaded gasoline will continue to be the most effective way to prevent airborne lead.

In FY 2004, EPA will continue to assist states, tribes, and local agencies in implementing strategies to reduce these pollutants, review data for redesignations to attainment, and assist states in developing plans, as necessary, to maintain compliance with the standards.

Cross-Pollutant Operating Permits and New Source Review (NSR)

In FY 2003, EPA will continue efforts to propose changes to the procedures states use to revise Title V operating permits (Part 70) and continue to provide technical support to states, tribes, and local agencies on the permit program. By December 2003, EPA intends, with assistance from state and local permitting authorities, to complete the first round of Part 70 permits. In FY 2004, EPA plans to promulgate the Part 70 operating permit rules. EPA will continue and expand training and technical support efforts to ensure smooth incorporation into operating permits of rules that have recently become effective.

In FY 2003, EPA promulgated the Prevention of Significant Deterioration (PSD) and nonattainment New Source Review (NSR) rule. The rule addressed baseline emissions determination, actual-to-future-actual method, plant-wide applicability limitations, clean units and pollution control projects. The rule becomes effective on March 1, 2003. The 12 states with delegated PSD programs will implement the regulation in FY 2004. EPA regional offices will assist the additional 38 states in their implementation efforts. In FY 2003, EPA proposed a rule to clarify the definition of routine maintenance, repair, and replacement for the NSR program. EPA plans to promulgate the rule in FY 2004. In addition, EPA plans to address the issues of aggregation, debottlenecking, and plant-wide applicability limits. By the end of FY 2004, EPA will complete training of states that have delegated PSD programs.

In FY 2004, EPA will continue to maintain, operate, and enter new information into the RACT/BACT/LAER Clearinghouse. In FY 2003, the clearinghouse will complete the data collection and entry for missing permits issued in the last 10 years (begun in FY 2002). In FY 2002, EPA implemented many improvements to the clearinghouse. In FY 2003, EPA plans to implement more complex system improvements, establish an emerging technology database, accommodate final NSR Reform rules, and interconnect the clearinghouse Web database with other EPA databases that contain facility data.

Ambient Air Monitoring for Homeland Security

Ambient air monitoring plays an important role in the detection and response to threats from potential terrorist actions. EPA has identified 4 types of air emergency response scenarios; chemical threats, infrastructure and physical threats, radiological threats, and biological and pathogenic threats. The outdoor air and radiation program's role is primarily with incidents involving chemical or infrastructure/physical threats and radiological threats. While it is impossible to contemplate all possible contingencies and the threat scenarios may differ in scale and impact, there are common elements to the response that dictate the expertise and equipment needed for an effective and timely response. Common to all scenarios are:

1. Get on site with the right people and equipment;
2. Establish a monitoring plan;
3. Deploy monitors with real-time monitoring capabilities; and
4. Gather, analyze, and transmit the data from these monitors to appropriate decision points.

EPA will work closely with other Federal and state agencies with threat detection responsibilities to ensure that EPA's existing monitoring expertise, standards, capabilities, and data are appropriately integrated into their efforts to detect terrorist threats. The Agency has, and will continue to make historic data available to determine trends and background levels that will aid in setting baselines for detection. In addition, monitoring surveillance using EPA, state and Tribal monitoring assets, may provide valuable and timely data to detect anomalies in the ambient air that may, in conjunction with other environmental and health data, indicate if further, more detailed, analysis is warranted. EPA will work with other agencies and the private sector to

support this effort, will discourage any unnecessary duplication, and will help ensure that detection methods and communication systems are optimized and standardized.

Research

The Clean Air Act requires EPA to set National Ambient Air Quality Standards (NAAQS) for six criteria pollutants: ozone, particulate matter (PM), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), carbon monoxide (CO), and lead. The Act requires that these standards be reviewed and, if necessary, revised every five years. EPA's NAAQS research program is devoted to the mission of providing an improved scientific basis for: 1) periodic review and revision as needed of the NAAQS (*i.e.*, effects, exposure, and risk assessment); and 2) implementation and attainment of the NAAQS (*i.e.* emissions, air quality modeling, ambient measurement methods, and risk management approaches). NAAQS research currently addresses both of these areas for particulate matter, and implementation and attainment of the NAAQS for ozone. In the area of effects research, the program focuses on human health risks while ecological concerns are addressed primarily through research on associated ecological effects (*i.e.*, acid deposition) under the Ecosystem Protection research programs in Goal 8.

In order to ensure the relevance of this program, research and assessment activities are guided by the draft PM Research Plan and the draft Tropospheric Ozone Research and PM Research Multi-Year Plans. These documents articulate the long-term goals, purpose, and priorities of these programs, and include a scheduled timeline of research and assessment activities and the expected products including annual performance goals and measures under the Government Performance and Results Act (GPRA). To maximize the quality of the research conducted under the NAAQS research program, products such as scientific publications, assessments, and documents undergo peer review, with major or significant products requiring external peer review. The Agency's Peer Review Handbook (2nd Edition) codifies the procedures and guidance for conducting peer review.

Tropospheric Ozone and Related NAAQS

In FY 2004, continuing atmospheric chemistry and modeling work to support the implementation of the tropospheric ozone NAAQS will include research to determine the causative agents responsible for non-attainment (*e.g.*, chemical constituents, sources and source regions, and meteorological variables). Research will also be conducted to describe key missing features of the atmospheric chemistry of ozone formation, information that will improve atmospheric chemistry models. Developing, evaluating, and applying comprehensive atmospheric models for projecting the impacts of emission control strategies, including flexible and innovative alternative strategies, will also be a priority.

Likewise, developing observational-based methods to complement emissions-based, physical theory modeling will continue to be a priority, as will research to develop the protocols, combining modeling and observational approaches, for use by the scientific community in conducting integrated multi-scale exposure assessments. Emissions profiles will be produced for mobile sources already being characterized for their contribution to air toxics and PM exposure. Tropospheric ozone air quality modeling utilizing the Agency's supercomputer will also

continue in FY 2004 and falls under one of the Administration's interagency priorities, Networking and Information Technology Research and Development.

Research to support the development of measurement and modeling methods and observational-based assessments includes continuing efforts to provide a reliable means of assessing the results of state and local emissions reductions by developing techniques to measure ozone precursors and their transformation during meteorological transport. The Agency will complete recommendations in FY 2004 for monitoring strategy improvements for states to use observation-based methods in their NAAQS implementation strategies.

While estimates of both biogenic (naturally occurring) and mobile source (motor vehicles, engines, and their fuels) emissions have been improved significantly over the last five years, uncertainties remain. Research planned for FY 2004 will improve the accuracy of emission estimates generated using the Biogenic Emissions Inventory System (BEIS-III) and mobile emissions models that account for the effect of different vehicle operating modes on emissions (modal-based emissions models). The Agency will improve BEIS-III by upgrading the Biogenic Emissions Land use Database (BELD) for the United States, and other regions of North America where data are available. This improvement will be useful to state implementation plan (SIP) air quality modelers because it will allow them to make more informed decisions as they develop and implement the SIPs. It will be particularly useful in determining emissions involving complex mixes of land use/land cover, an area of considerable uncertainty in current criteria air pollutant modeling. Research planned for FY 2004 will also continue to develop improved emission factors and perform model validation studies for additional vegetative types.

Mobile emissions research will focus on further development and validation of the Mobile Emissions Assessment System for Urban and Regional Evaluation (MEASURE). This research includes studies to enhance MEASURE's capability to estimate the distribution of nitrogen oxide emissions from trucks and work to improve emission forecasts from light- and medium-duty delivery trucks and heavy-duty interstate truck travel. In addition, efforts will commence to validate MEASURE using ambient measurements capable of plume characterization and across-the-road ambient concentration measurements. Finally, testing will be performed on an approach for linking MEASURE with Models-3/Community Multi-Scale Air Quality model (CMAQ). The data generated from this research will be incorporated into the atmospheric chemistry models used by Federal, state, and local environmental officials use to evaluate attainment strategies.

Particulate Matter Research

EPA's Particulate Matter (PM) research program will continue work to strengthen the scientific basis for the periodic review of the PM NAAQS, including conducting epidemiological, toxicological, clinical, and exposure studies focused on understanding health effects of PM. The PM program will also develop tools and methods for use by states, tribal, and local regulators to assess control options to improve PM NAAQS implementation plans that will move the Agency toward its objective of reducing Americans' exposure to PM. In addition it will provide recommendations on the key scientific uncertainties regarding implementation of the PM standards.

The PM program is designed to address the ten priority topics identified by the National Academy of Sciences (NAS). Most broadly, the NAS recommends that research programs work to resolve issues of scientific uncertainty regarding health effects of particulate matter, factors that make sub-populations especially susceptible to health effects, and the hazardous PM components and sources most responsible for health effects. Specific critical research issues included in multiple NAS topics are:

- Potential confounding of PM health effects with other pollutants in the air: While EPA is far from understanding the health effects associated with all PM components, sufficient progress has been made to initiate studies investigating hypotheses related to PM components and sources that include formally examining the role played by co-pollutants. Research under this topic will assess the consequences of PM and co-pollutant exposures in at-risk populations including the relative toxicity of specific PM constituents from various emission sources and the role of gaseous co-pollutants (such as ozone, nitrogen dioxide, and carbon monoxide) in PM health effects.
- Attribution of the PM health effects to specific constituents (e.g., sulfates versus nitrates versus organic and elemental carbon, and metals): EPA's monitoring network, which includes the super sites and speciation sites, is providing information about specific PM components. Future epidemiology studies will associate health effects with these components. Current and planned clinical and toxicology studies are being coordinated with epidemiological studies and are linking health effects with specific PM components found in ambient PM, and attempting to further link specific components with sources that produced them in an effort to link health effects with pollution sources.
- The quantitative relationship between exposure to different particles and various health effects: the assessment of the hazards associated with PM has proceeded in line with the NAS Risk Assessment Paradigm of 1993. This paradigm initially establishes the existence of a hazard (i.e., Hazard ID) and its "biologic plausibility," and then ascertains the attributes of dose (concentration)-response. The preponderance of data to date correlates exposure to PM mass with many different health effects, including cardio-respiratory mortality and morbidity, and life-shortening. Since these outcomes occur at levels previously thought to be "safe," research is needed to establish dose-response models in epidemiology and toxicology studies. Only with established dose-response relationships between particles (and their components) and potentially adverse health effects, will appropriate and credible assessment of the true risks and impact to human health be determined.

In order to address high priority research needs, the Agency will increase efforts to improve air quality modeling and to develop or improve methods to identify sources contributing to ambient PM concentrations. Increased efforts to improve the accuracy and processing speed of the Community Multi-Scale Air Quality model (CMAQ) will include research to improve predictions of secondary nitrate and secondary organic aerosol formation. This research will also support the development of a simplified chemistry module that will improve model speed to allow evaluations, in combination with the research above, of more SIP scenarios without a significant loss of accuracy. In addition, the Agency will augment research to improve ammonia emission factors for all types of agricultural production related to livestock and to develop a

better understanding of the nature of ammonia sinks in order to provide more accurate inputs to air quality models in support of SIP development and evaluation. This work responds to needs identified by states and local air pollution control agencies.

Increased efforts to identify sources contributing to ambient PM concentrations will include research to provide for more accurate identification of gasoline, diesel, biogenic, and regional sources. This research, in combination with research to identify better marker compounds, will allow the Agency to more accurately determine the contribution of gasoline vehicle emissions to ambient PM concentrations. Research will also improve emissions and characterization data for open and prescribed burning, which will support more accurate emission inventories and air quality modeling results, and improved source profiles for more accurate identification of the contribution of these sources to ambient PM concentrations. Research to improve characterization of carbonaceous PM emissions from off-road mobile sources will yield data that can be used for improving emission inventories for air quality models and for improving source profiles to identify source-specific contributions to ambient PM concentrations, especially the relative levels of contributions from diesel and gasoline vehicles.

Continuing atmospheric measurement and modeling research in FY 2004 will improve our understanding of the processes and chemistry that affect the composition, formation, and fate of atmospheric PM, and will refine our ability to estimate the relative source contributions of measured PM. This research will evaluate the chemical and physical processes that control the organic and inorganic chemical composition of PM, determine accurately the physical properties, chemistry, and composition of atmospheric PM, and develop and evaluate measurement methods needed to determine compliance with the PM NAAQS and to apply and evaluate complex models that simulate atmospheric processes. Along with these activities, developing urban-to-regional scale emissions-based air quality models and source apportionment models will provide data, models, and measurement methods that states can use to develop effective SIPs to achieve the PM NAAQS.

PM emission characterization research will support: (1) development of new or improved methods and models to quantify or estimate emissions of primary fine particles and major gaseous precursors of secondary fine particles; (2) provision of data on the size distribution of the particles emitted; and (3) provision of updated and augmented data on the chemical composition of fine PM from a variety of sources. Research is being conducted to ensure that emissions methods include semi-volatile gases that form particles by condensing in the plume immediately downwind of the source.

In the area of emissions controls and reduction research, the Agency will work cooperatively with the Department of Energy and industry to develop and evaluate innovative particulate matter and multi-pollutant control options and provide summary data and reports that compare the cost and effectiveness of these risk management options. Multi-pollutant controls research will include laboratory and field studies to determine the performance of advanced fine PM control technologies including integrated systems that simultaneously reduce both primary and secondary gaseous precursors (nitrogen oxides, sulfur oxides). Data generated from laboratory and field studies conducted to determine the chemical composition of fine PM from a variety of sources will be used to update and develop more specific source profiles. The results will provide a better understanding of the relationship between sources, ambient concentrations,

and human exposures and will enhance the capability of states to trace ambient particulate matter to its sources.

PM health effects research will continue to determine the physical, chemical, and biological characteristics of particles responsible for adverse health effects and dose-response relationships between PM constituents and adverse health effects. Efforts will focus on understanding the mechanisms of toxicity responsible for adverse health outcomes to identify responsible physical, chemical, and biological characteristics of particles. This includes efforts to use well-characterized PM samples from sources of concern (e.g., coal-fired boilers, diesel trucks, open burning) for toxicological testing. This simulates mixtures of PM that people are actually exposed to in the ambient environment in such a way that effects of specific PM components can be evaluated individually and in combination.

PM health effects research also focuses on identifying sub-populations at risk and factors of susceptibility for PM and co-pollutants. This includes continuing efforts to develop animal models of human susceptibility and research efforts designed to disentangle the effects of PM and co-pollutants including epidemiology, toxicology, and clinical studies of interactions between PM and other air pollutants to investigate effects of co-pollutants on PM health effects, deposition, and clearance. As part of these efforts, researchers will complete a report on the chronic respiratory health effects in children of intra-urban gradients of particulate matter and co-pollutants in El Paso, TX.

As more is learned of the acute effects (and constituents most responsible for those effects), PM health effects research will develop and apply animal models of systemic, heart, and lung diseases to understand health effects and mechanisms for PM susceptible subpopulations. The Agency will identify endpoints to be measured for long-term exposure studies, and develop methodologies for sub-chronic and chronic animal studies. These studies will focus on subtle systemic and cardiopulmonary disease processes that will shed light on the preliminary epidemiological evidence suggesting life-shortening and other long-term outcomes from PM exposure. In future years they will also link to clinical studies on potential endpoints of the effects of long-term exposure to PM and epidemiological studies to better characterize and quantify these effects and the constituents most responsible for the effects.

Understanding human exposure to PM is critical since it is the individual who actually experiences adverse health effects associated with elevated PM concentrations in ambient air. The approach for PM exposure research is to measure ambient, outdoor, indoor, and personal concentrations of PM (including its components and co-pollutants), collect data on personal activities and locations, and then characterize the relationships between these concentrations and evaluate the factors that influence the relationships. The human exposure data and models produced by this research will provide the critical link between the ambient monitoring data (some of which is used for regulatory purposes), inhalation models, and studies of adverse health effects. In addition, information on the relationship between ambient PM concentrations and personal exposure to ambient PM is required to evaluate the underlying assumptions and interrelations of epidemiological studies.

NAAQS Technical Support

The major area of technical support supplied by the NAAQS Research program is the revision of the air quality criteria document (AQCD) required every five years by the Clean Air Act. This involves compiling and assessing results from recent studies that bear on the underlying criteria for the NAAQS, and integrating these findings into criteria for use in interpreting, comparing, and contrasting similar and dissimilar study results. In addition, technical support includes the development and evaluation of reference methods to measure ozone and PM and evaluations of alternative "equivalent" methods.

Homeland Security

EPA's Homeland Security Research Program supports one of six Administration FY 2004 Interagency Research and Development Priorities. In FY 2004, Homeland Security rapid risk assessment research will focus on developing a population exposure modeling and forecasting system to simulate in real time the release, dispersion, transport, and fate of airborne agents, with a focus on particulate matter.

FY 2004 Change from FY 2003 Request

EPM

- (+\$1,500,000) This increase will fund additional community-wide efforts to reduce diesel emissions and associated health effects, particularly for sensitive populations such as children and the elderly. As part of this initiative, we will work with state and local governments and other non-governmental organizations to reduce children's exposure to PM diesel emissions from buses and other sources by applying new, innovative diesel emission reduction technologies to the existing school bus fleet, promoting anti-idling strategies, and encouraging the use of low sulfur fuel.

More than 24 million children in the US ride a bus to and from school every day. Researchers have found that children riding on school buses can be exposed to high levels of diesel exhaust. Idling school buses can compromise air quality on and around buses, including sidewalks, schoolyards, playgrounds, and even inside school buildings.

School buses can be retrofitted with pollution controls through the use of ultra-low sulfur diesel fuel and the installation of PM filters. This approach can reduce PM emissions by more than 90 percent. Other strategies include anti-idling programs, which lower bus idling time and reduce harmful emissions.

- (+\$1,102,900, +1 FTE) This increase is for EPA's ambient air monitoring data to be fully available to other Federal agencies, as needed, for Homeland Security responsibilities. EPA will begin enhancing its ability to collect ambient air monitoring data to provide to other Federal agencies. EPA will develop comprehensive mobile air rapid response laboratories (RRLs) to support OAR's air monitoring for general population exposures and coordination with local and state monitoring agencies on public health protection. In addition to air monitors, the RRLs will have advanced

meteorological capabilities to support localized mixing, dispersion and transport forecasting. The RRLs will also be able to provide limited data on infiltration and transport of outdoor pollutants to indoor environments

- (+\$1,869,000, +7.8 FTE) This increase is for resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. (Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)

S&T

- (-\$14,000,000) This decrease reflects the completion of the FY 2003 investment in equipment upgrades of vehicle and engine testing capacities at the National Vehicle and Fuels Emissions Laboratory (NVFEL) to accurately measure the emissions of vehicles and low-emission heavy-duty diesel engines for compliance with the Tier II and Heavy-Duty Diesel Engine standards.
- (+\$8,000,000) This increase is required to help ensure compliance with the more stringent and complex Tier II and Diesel regulations for cars, heavy-duty diesel engines, and gasoline and diesel fuels that will take effect beginning in FY 2004. EPA's certification and compliance activities and associated costs will increase for:
 - laboratory and field-testing of vehicles, engines, and equipment;
 - certification and compliance database maintenance and information management;
 - development of a credible heavy-duty compliance program;
 - increased testing operations and maintenance of new complex testing facilities;
 - certification and compliance of nonroad industries; and
 - increased compliance and technical assistance for nearly triple the number of manufacturers and certificates, particularly for the nonroad industries
- (+\$6,245,300, +6.0 FTE) This increase will support the President's Clear Skies Initiative. Meeting the ozone and PM standards will require reductions in both transported and local air pollution. To help states and localities develop cost-effective strategies, the Agency will need to analyze the pollutant contributions from different

sectors and provide assistance to states regarding the implementation of regional and local reductions. The types of tools and assessment we will develop for the Clear Skies Initiative are the following:

- conduct economic and technical feasibility analyses to evaluate policy options;
- quantify emissions from the most significant contributors of PM_{2.5} precursors by expanding and updating databases and inventories that EPA has already developed;
- initiate development of a model cap and trade program that states can choose to use as a cost effective way of reducing precursors to PM_{2.5};
- conduct modeling work to analyze the transport effect of PM_{2.5};
- develop tools and analysis needed for implementation; and
- coordinate with states to develop tools that address their individual concerns.

Included in this total increase are resources redirected in FY 2004 (\$1,245,300 and 6.0 FTE) to support the Clear Skies Initiative in FY 2004.

- (+\$600,000) This increase is for increased personal security at the National Vehicles and Fuels Emissions Laboratory (NVFEL), which is managed by the Office of Air and Radiation (OAR). As a result of September 11, 2002, EPA upgraded the professionalism of guard service at this laboratory facility to Level 2 guards, more highly trained and professional than the Level 1 guards previously on duty. Unlike security hardware upgrades that have been made, increased costs for these guard services will become a permanent increased cost to the OAR that pays for these guard services as part of the fixed costs of this laboratory. This increased guard service provides a level of security that is seamless to the workforce to promote an environment that is safe and sound for the work conducted in the NVFEL. Beyond FY 2004, maintaining an adequate guard service to provide an environment where unique scientific knowledge work can be conducted is a tremendous benefit to the Agency.

Research

- (+\$1,522,000) Resources will be shifted from PM exposure measurement and modeling and health effects research in order to address priority research needs. Resources will augment research to improve the accuracy and speed of the CMAQ air quality model used by the Agency and states to develop and evaluate SIPs and to improve methods to identify sources contributing to ambient PM concentrations in order to allow for more accurate identification of these sources.
- (+\$888,000) This represents homeland security research that will be initiated in FY 2004 focusing on rapid risk assessment research with a concentration in particulate matter. Work will include developing practices and procedures that provide elected officials,

decision makers, the public, and first responders with rapid risk assessment protocols for chemical and biological threats.

- § (+\$307,500, +3.0 FTE) Resources will be shifted to tropospheric ozone research supporting criteria document development from lower priority air toxics and particulate matter research. An increase in personnel is needed for criteria document development due to the periodic review of the NAAQS.
- (-\$147,750, -1.5 FTE) Personnel formerly conducting risk management research on short-term exposures to particulate matter will be shifted to conduct criteria document support in the Tropospheric Ozone Research program. Since the PM study supported by these workyears concluded in FY 2003, there will be no negative programmatic impacts.
- (-\$301,200, -1.0 FTE) Resources will be shifted from the NAAQS Research Objective to the Air Toxics Research Objective. These resources will be combined with existing air toxics resources to support human exposure measurements designed to provide information on the relationship between ambient, outdoor, indoor and personal exposure concentrations of air toxics and PM and to identify factors which affect these relationships and personal exposures. The resources for these studies will be leveraged with PM exposure resources, thus the purpose of this shift in resources from PM to air toxics exposure is to evenly distribute the resource contributions from each program to reflect to the joint air toxics and PM study objectives.
- § (-\$551,600, -5.6 FTE) This reduction represents a shift of personnel and associated costs to support homeland security research activities in the Waste Research Program. NAAQS-related research that will be impacted includes delays in research identifying PM mechanisms of toxicity and in studies to characterize indoor-generated PM and efforts to develop information on the best ways to manage indoor exposures.
- (-\$1,522,000) In order to augment higher-priority research to improve PM air quality modeling and to improve methods to identify sources contributing to ambient PM concentrations, resources will be shifted from PM exposure measurement and modeling and health effects research. This reduction will delay long-term epidemiological studies to resolve uncertainties related to PM health effects, health effects research to identify cardiopulmonary and systemic health endpoints, and research to identify health effects of specific PM constituents in susceptible populations. The shift also will reduce the scope of human exposure measurements and modeling research by eliminating measurements of how people are actually exposed to PM components, co-pollutants, and air toxics.
- There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: CLEAN AIR

OBJECTIVE: ATTAIN NAAQS

Annual Performance Goals and Measures

Reduce Exposure to Unhealthy Ozone Levels - 1 Hour

- In 2004 The number of people living in areas with monitored ambient ozone concentrations below the NAAQS for the 1-hour ozone standard will increase by 1% (relative to 2003) for a cumulative total of 20% (relative to 1992).
- In 2003 Maintain healthy air quality for 42 million people living in monitored areas attaining the ozone standard; certify that 7 areas of the remaining 54 nonattainment areas have attained the 1-hour NAAQS for ozone thus increasing the number of people living in areas with healthy air by 5.1 million.
- In 2002 Maintained healthy air quality for 41.7 million people living in monitored areas attaining the ozone standard; and certified 1 area of the remaining 55 nonattainment areas attained the 1-hour NAAQS for ozone, thus increasing the number of people living in areas with healthy air by 326,000.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Cumulative Percent Increase in the Number of People who Live in Areas with Ambient 1-hour Ozone Concentrations Below the Level of the NAAQS as Compared to 1992		19	20	Percent
Cumulative Percent Increase in the Number of Areas with Ambient 1-hour Ozone Concentrations Below the Level of the NAAQS as Compared to 1992		31	33	Percent
Total Number of People who Live in Areas Designated to Attainment of the Clean Air Standards for Ozone	42,026,000	47,105,000	n/a	People
Areas Designated to Attainment for the Ozone Standard	1	7	0	Areas
Additional People Living in Newly Designated Areas with Demonstrated Attainment of the Ozone Standard	326,000	5,079,000	n/a	People
VOCs Reduced from Mobile Sources	1,755,000	1,852,000	2,040,000	Tons
NOx Reduced from Mobile Sources	1,319,000	1,449,000	1,653,000	Tons

Baseline: At the time that the Clean Air Act Amendments of 1990 were enacted (for the period 1990 - 1992), 52 areas with a population of 118 million people had ambient ozone concentrations that were greater than the level of the NAAQS. For the period 1999 - 2001, 16 of these areas (31%) with a population of 24 million people (19%) had ambient ozone concentrations were below the level of the NAAQS. In 1990, 101 areas were designated in nonattainment for the 1-hour ozone standard. Through 2002, 47 areas have been redesignated to attainment and 54 areas remain in nonattainment. The 1995 baseline for VOCs reduced from mobile sources is 8,134,000 tons and 11,998,000 tons for NOx, both ozone precursors. Notes: Areas means nonattainment areas for comparisons with the 1-hour NAAQS. Comparisons of ambient air quality concentrations with the level of the NAAQS are based on a time period and statistic consistent with the NAAQS. For ozone, this means a 3 year time frame. Population estimates based on 2000 census.

Reduce Exposure to Unhealthy PM Levels - PM-10

- In 2004 The number of people living in areas with monitored ambient PM concentrations below the NAAQS for the PM-10 standard will increase by 1% (relative to 2003) for a cumulative total of 11% (relative to 1992).
- In 2003 Maintain healthy air quality for 6.1 million people living in monitored areas attaining the PM standards; increase by 81 thousand the number of people living in areas with healthy air quality that have newly attained the standard.
- In 2002 Maintained healthy air quality for 3.4 million people living in monitored areas attaining the PM standards; and increased by 2.7 million the number of people living in areas with healthy air quality that have newly attained the standard.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Cumulative Percent Increase in the Number of People who Live in Areas with Ambient PM-10 Concentrations Below the Level of the NAAQS as Compared to 1992		10	11	Percent
Cumulative Percent Increase in the Number of Areas with		45	46	Percent

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Ambient PM-10 Concentrations Below the Level of the NAAQS as Compared to 1992				
Total Number of People who Live in Areas Designated in Attainment with Clean Air Standards for PM	6,086,500	6,212,000		People
Areas Designated to Attainment for the PM-10 Standard	4	8	8	Areas
Additional People Living in Newly Designated Areas with Demonstrated Attainment of the PM Standard	2,686,500	81,000		People
PM-10 Reduced from Mobile Sources	23,000	25,000	18,000	Tons
PM-2.5 Reduced from Mobile Sources	17,250	18,000	13,500	Tons

Baseline: At the time that the Clean Air Act Amendments of 1990 were enacted (for the period 1990-1992), 58 areas (nonattainment areas for comparisons with the PM-10 NAAQS.) with a population of 38 million people had ambient PM-10 concentrations that were greater than the level of the NAAQS. For the period 1999-2001, 26 of these areas (45%) with a population of 4 million (10%) had ambient PM-10 concentrations below the level of the NAAQS. (Population estimates based on 2000 census.) Comparisons of ambient air quality concentrations with the level of the NAAQS are based on a time period and statistic consistent with the NAAQS. For PM-10, this means a 3 year time frame. As a result of the Clean Air Act Amendments of 1990, 84 areas were designated nonattainment for the PM-10 standard. Since that time, EPA has split Pocatella into 2 areas thereby revising the baseline to 85. Through 2002, 22 areas have been redesignated to attainment. The 1995 baseline for PM-10 reduced from mobile sources is 880,000 tons.

Reduce Exposure to Unhealthy CO, SO2, NO2, Lead

- In 2004** The number of people living in areas with monitored ambient CO, NO2, SO2, or Pb concentrations below the NAAQS will increase by less than 1% (relative to 2003) for a cumulative total of 63% (relative to 1992).
- In 2003** Maintain healthy air quality for 53 million people living in monitored areas attaining the CO, SO2, NO2, and Lead standards; increase by 1.1 million the number of people living in areas with healthy air quality that have newly attained the standard.
- In 2002** Maintained healthy air quality for 36.7 million people living in monitored areas attaining the CO, SO2, NO2, and Lead standards; and increased by 16.5 million, the number of people living in areas with healthy air quality that have newly attained the standard.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Cumulative Percent Increase in the Number of People who Live in Areas with Ambient CO, SO2, NO2, or Pb Concentrations Below the Level of the NAAQS as Compared to 1992		63	63	Percent
Cumulative Percent Increase in the Number of Areas with Ambient CO, SO2, NO2, or Pb Concentrations Below the Level of the NAAQS as Compared to 1992		74	77	Percent
Total Number of People Living in Areas Designated in Attainment with Clean Air Standards for CO, SO2, NO2, and Pb	53,190,000	54,181,000	n/a	People
Areas Designated to Attainment for the CO, SO2, NO2, and Pb Standards	12	11	13	Areas
Additional People Living in Newly Designated Areas with Demonstrated Attainment of the CO, SO2, NO2, and Pb Standards	16,490,000	1,118,800	n/a	People
CO Reduced from Mobile Sources	11,002,000	11,333,000	12,636,000	Tons
Total Number of People Living in Areas with Demonstrated Attainment of the NO2 Standard	14,944,000	14,944,000	n/a	People

Baseline: At the time the Clean Air Act Amendments of 1990 were enacted (for the period 1991-1992), 27 areas (counties comprising nonattainment areas for the comparisons with the NAAQS) with a population of 48 million people had ambient CO, SO2, NO2, or Pb concentrations (comparisons of ambient air quality concentrations with the level of the NAAQS are based on a time period and statistic consistent with each individual NAAQS) that were greater than the level of the NAAQS. For the period 2000-2001 (For some of the pollutants included in this measure, the number of years used to evaluate the ambient concentrations relative to the NAAQS may be less than the referenced time period: e.g. NO2 is evaluated over a single year.), 20 of these areas (74%) with a population of 30 million (63%) had ambient CO, SO2, NO2, or Pb concentrations less than the level of the NAAQS.

(Population estimates based on 2000 census.) The projected improvement in 2004 is estimated for a single area. Therefore, the increase by definition must occur in a single year interval. In addition, the population living in these areas of improved air quality is small relative to that for the remaining areas. Therefore the projected improvement in population is greater than zero but less than 1. For CO, SO₂, NO₂, and Pb, 107 areas were classified as nonattainment or were unclassified in 1990. Through 2002, 76 of those areas have been redesignated to attainment. The 1995 baseline for mobile source emissions for CO was 70,947,000 tons.

Reduce Exposure to Unhealthy Ozone Levels - 8 Hour

In 2004 The number of people living in areas with monitored ambient ozone concentrations below the NAAQS for the 8-hour ozone standard will increase by 3% (relative to 2003) for a cumulative total of 3% (relative to 2001).

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request		
Cumulative Percent Increase in the Number of People who Live in Areas with Ambient 8-hour Concentrations Below the Level of the NAAQS as Compared to 2001			3		Percent
Cumulative Percent Increase in the Number of Areas with Ambient 8-hour Ozone Concentrations Below the Level of the NAAQS as Compared to 2001			7		Percent

Baseline: For the period 1999-2001, 302 areas (counties) with a population of 115 million people had ambient 8-hour ozone concentrations above the level of the NAAQS. (Population estimates based on 2000 census.) Comparisons of ambient air quality concentrations with the level of the NAAQS are based on a time period and statistic consistent with the NAAQS. For ozone, this means a 3 year time frame.

Reduce Exposure to Unhealthy PM Levels - PM- 2.5

In 2004 The number of people living in areas with monitored ambient PM concentrations below the NAAQS for the PM-2.5 standard will increase by less than 1% (relative to 2003) for a cumulative total of less than 1% (relative to 2001).

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request		
Cumulative Percent Increase in the Number of People who Live in Areas with Ambient PM-2.5 Concentrations Below the Level of the NAAQS as Compared to 2001			<1		Percent
Percent Increase in the Number of Areas with Ambient PM-2.5 Concentrations Below the Level of the NAAQS as Compared to 2001			1		Percent

Baseline: For the period 1999-2001, 132 areas (counties) with a population of 66 million people had ambient PM-2.5 concentrations that were greater than the level of the NAAQS. (Population estimates based on 2000 census.) Comparisons of ambient air quality concentrations with the level of the NAAQS are based on a time period and statistic consistent with the NAAQS. For PM-2.5, this means a 3-year time frame. The 1995 baseline for PM-2.5 reduced from mobile sources is 659,000 tons.

Increase Tribal Air Capacity

In 2004 Increase the number of tribes monitoring air quality for ozone and/or particulate matter from 42 to 45 and increase the percentage of tribes monitoring clean air for ozone from 64% to 67% and particulate matter from 71% to 72%.

In 2003 Increase the number of tribes monitoring air quality for ozone and/or particulate matter from 37 to 42 and increase the percentage of tribes monitoring clean air for ozone from 62% to 64% and particulate matter from 68% to 71%.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request		
Percent of Tribes with Tribal Lands Monitoring for Ozone and/or Particulate Matter		12	13		Percent
Percent of Monitoring Tribes Monitoring Clean Air for Ozone		64	67		Percent
Percent of Monitoring Tribes Monitoring Clean Air for Particulate Matter		71	72		Percent
Number of Tribes Implementing Air Programs		25	30		Tribes

Baseline: There are 576 Federally recognized tribes with 347 tribes having tribal lands (Alaska Native Villages (tribes) number 229 entities, but only one 'reservation'). Through September 2002, there are 21 tribes implementing air programs; 37 tribes conducting monitoring for ozone and/or particulate matter; 8 tribes are currently monitoring clean air for ozone (of 13 total) and 25 tribes are currently monitoring clean air for particulate matter (of 37 total); and 15 tribes submitting quality assured data.

Research

PM Effects Research

In 2004 Provide reports to OAR and the scientific community that examine the health effects of high levels of air pollutants, especially particulate matter, in potentially susceptible populations so that PM standards protect human health to the maximum extent possible.

In 2002 EPA provided data on the health effects and exposure to particulate matter (PM) and provided methods for assessing the exposure and toxicity of PM in healthy and potentially susceptible subpopulations to strengthen the scientific basis for reassessment of the NAAQS for PM.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Report on the effects of concentrated ambient PM on humans and animals believed most susceptible to adverse effects (e.g., elderly, people with lung disease, or animal models of such diseases).	1			report
Report on animal and clinical toxicology studies using Utah Valley particulate matter (UVPM) to describe biological mechanisms that may underlie the reported epidemiological effects of UVPM.	1			report
Report on the chronic respiratory health effects in children of intra-urban gradients of particulate matter and co-pollutants in El Paso, TX.			1	report
Report on epidemiologic studies examining acute cardiac and respiratory effects in the elderly and children exposed to particulate matter (PM) and co-pollutants.			1	report

Baseline: There is currently considerable concern that increased levels of particulate matter (PM) may disproportionately affect certain susceptible groups, especially when exposures are long-term. One such group is children, particularly those with pre-existing asthma and related cardiopulmonary diseases. Children living in areas of high pollution such as on the U.S.-Mexico border are particularly at risk due to economic factors as well as exposure. The elderly with chronic lung disease comprise another susceptible group who may be more acutely affected. Which components of PM are responsible for health effects in either of these groups remains unclear, as does how exposure data from monitoring sites relates to their personal situations. As noted by the National Research Council, the issue of susceptibility and chronic health outcomes is of utmost importance. Completion of this APG in FY 2004 will provide critical information to enhance risk estimates needed for promulgating the PM NAAQS and will provide information to the Office of Air so that it may focus its Air Quality Index on those who are at greatest risk.

Verification and Validation of Performance Measures

FY 2004 Performance Measures:

- **Percent increase in the number of people who live in areas with ambient criteria pollutant concentrations that meet or are below the level of the NAAQS.**
- **Percent increase in the number of areas with ambient criteria pollutant concentrations that meet or are below the level of the NAAQS.**
- **Percent of areas with improved ambient criteria pollutant concentrations for the NAAQS.**
- **Percent increase in the number of people living in areas with improved ambient criteria pollutant concentrations for the NAAQS.**

- **Areas designated to attainment for the NAAQS.**

Performance Databases: AQS —The Air Quality Subsystem (AQS) stores ambient air quality data used to evaluate an area's air quality levels relative to the NAAQS.

FREDS—The Findings and Required Elements Data System is used to track progress of states and Regions in reviewing and approving the required data elements of the State Implementation Plans (SIP). SIPs are clean air plans and define what actions a state will take to improve the air quality in areas that do not meet national ambient air quality standards

Data Sources:

AQS: State & local agency data from State and Local Air Monitoring Stations (SLAMS).

Population: Data from Census-Bureau/Department of Commerce

FREDS: Data are provided by EPA's Regional offices.

Methods, Assumptions, and Suitability: Air quality levels are evaluated relative to the level of the appropriate NAAQS. Next the populations in areas with air quality concentrations above the level of the NAAQS are aggregated. This analysis assumes that the populations of the areas are held constant at 2000 Census levels. Data comparisons over several years allow assessment of the air program's success.

QA/QC Procedures: AQS: The QA/QC of the national air monitoring program has several major components: the Data Quality Objective (DQO) process, reference and equivalent methods program, EPA's National Performance Audit Program (NPAP), system audits, and network reviews (Available on the Internet: www.epa.gov/ttn/amtic/npaplist.html) To ensure quality data, the SLAMS are required to meet the following: 1) each site must meet network design and site criteria; 2) each site must provide adequate QA assessment, control, and corrective action functions according to minimum program requirements; 3) all sampling methods and equipment must meet EPA reference or equivalent requirements; 4) acceptable data validation and record keeping procedures must be followed; and 5) data from SLAMS must be summarized and reported annually to EPA. Finally, there are system audits that regularly review the overall air quality data collection activity for any needed changes or corrections. Further information available on the Internet: <http://www.epa.gov/cludygxb/programs/namslam.html> and through United States EPA's Quality Assurance Handbook (EPA_600/4_77_022a, Section2.0.11)

Populations: No additional QA/QC beyond that done by the Census Bureau/Department of Commerce.

FREDS: No formal QA/QC procedures.

Data Quality Review:

AQS: No external audits have been done in the last 3 years. However, internal audits are regularly conducted.

Populations: No additional QA/QC beyond that done by the Census Bureau/Department of Commerce.

FREDS: None.

Data Limitations:

AQS: None known.

Populations: No additional QA/QC beyond that done by the Census Bureau/Department of Commerce.

FREDS: None known.

Error Estimate: At this time it is not possible to develop an error estimate. Uncertainty in projections (from modeling) and near term variations in air quality (due to meteorological conditions for example) exist.

New/Improved Data or Systems:

AQS: EPA recently completed the process of reengineering the AQS to make it a more user friendly, Windows-based system. As a result, air quality data will be more easily accessible via the Internet. AQS has been enhanced to include data standards (*e.g.*, latitude/longitude, chemical nomenclature) developed under the Agency's Reinventing Environmental Information (REI) Initiative.

Population: None

FREDS: None

References: For additional information about criteria pollutant data, non-attainment areas, and other related information, see: <http://www.epa.gov/airtrends/>.

FY 2004 Performance Measures:

- **Estimated Mobile Source VOC Emissions**
- **Estimated Mobile Source NOx Emissions**
- **Estimated Mobile Source PM 10 Emissions**
- **Estimated Mobile Source PM 2.5 Emissions**
- **Estimated Mobile Source CO Emissions**

Performance Database: National Emissions Inventory Database. See: <http://www.epa.gov/ttn/chief/trends/>

Data Source: Mobile source emissions inventories.

Estimates for on-road, off-road mobile source emissions are built from inventories fed into the relevant models which in turn provide input to the National Emissions Inventory Database.

The MOBILE vehicle emission factor model is a software tool for predicting gram per mile emissions of hydrocarbons, carbon monoxide, oxides of nitrogen, carbon dioxide, particulate matter, and toxics from cars, trucks, and motorcycles under various conditions.

The NONROAD emission inventory model is a software tool for predicting emissions of hydrocarbons, carbon monoxide, oxides of nitrogen, particulate matter, and sulfur dioxides from small and large off road vehicles, equipment, and engines.

Certain mobile source information is updated annually. Inputs are updated annually only if there is a rationale and readily available source of annual data. Generally, Vehicle Miles Traveled (VMT), the mix of VMT by type of vehicle (FHWA types), temperature, gasoline properties, and the designs of Inspection/Maintenance (I/M) programs are updated each year. The age mix of highway vehicles is updated using state registration data thereby capturing the effect of fleet turnover (assuming emission factors for older and newer vehicles are correct.) Emission factors for all mobile sources and activity estimates for non-road sources are changed only when the Office of Transportation and Air Quality requests that this be done and is able to provide the new information in a timely manner. This information includes data from the MOBILE6 model and the latest version of the nonroad model. Available respectively on the Internet

Methods, Assumptions, and Suitability: EPA issues emissions standards that set limits on how much pollution can be emitted from a given mobile source. Mobile sources include vehicles that operate on roads and highways ("on road" or "highway" vehicles), as well as nonroad vehicles, engines, and equipment. Examples of mobile sources are cars, trucks, buses, earthmoving equipment, lawn and garden power tools, ships, railroad locomotives, and airplanes. Vehicle and equipment manufacturers have responded to many mobile source emission standards by redesigning vehicles and engines to reduce pollution.

EPA uses models to estimate mobile source emissions, for both past and future years. The estimates are used in a variety of different settings. The estimates are used for rulemaking.

The most complete and systematic process for making and recording such estimates is the "Trends" inventory process executed each year by the Office of Air Quality Planning and Standards' (OAQPS) Emissions, Monitoring, and Analysis Division (EMD). The Assessment and Modeling Division is the coordinator within the Office of Transportation and Air Quality for providing EMD information and methods for making the mobile source estimates. In addition, EMD's contractors obtain necessary information directly from other sources; for example, weather data and the Federal Highway Administration's (FHWA) Vehicle Miles Traveled (VMT) estimates by state. EMD creates and publishes the emission inventory estimate for the most recent historical year, detailed down to the county level and with over 30 line items representing mobile sources. Usually, EMD creates estimates of emissions for future years. When the method for estimating emissions changes significantly, EMD usually revises its older estimates of emissions in years prior to the most recent year, to avoid a sudden discontinuity in the apparent emissions trend. EMD publishes the national emission estimates in hardcopy; county-level estimates are available electronically. Additional information about transportation and air quality related to estimating, testing for, and measuring emissions, as well as research being conducted on technologies for reducing emissions is available at <http://www.epa.gov/otaq/research.htm>

QA/QC Procedures: The emissions inventories are continuously improved.

Data Quality Review: The emissions inventories are reviewed by both internal and external parties.

Data Limitations: The limitations of the inventory estimates for mobile sources come from limitations in the modeled emission factors (based on emission factor testing and models predicting overall fleet emission factors in g/mile) and also in the estimated vehicle miles traveled for each vehicle class (derived from Department of Transportation data), <http://www.epa.gov/otaq/m6.htm>. For nonroad emissions, the estimates come from a model using equipment populations, emission factors per hour or unit of work, and an estimate of usage. This nonroad emissions model accounts for over 200 types of nonroad equipment. Any limitations in the input data will carry over into limitations in the emission inventory estimates. Available on the Internet: <http://www.epa.gov/otaq/m6.htm>

It is important to have the current and future year emission reduction estimates generated using consistent methods. The EPA Emission Trends report dated December 1997 has mobile source emission inventories for the 1995 base year as well as estimates for years 2000, 2002, 2005, and 2007. The base year emissions in 1995 for mobile sources are 8,134,000 tons VOC; 70,947 tons CO; 11,998 tons NOx; 878,000 tons PM-10; and 659,000 tons PM. These data were used to predict the emission reductions in year 2000 and later.

Error Estimate: Additional information about data integrity is available on the Internet: <http://www.epa.gov/otaq/m6.htm>.

New/Improved Data or Systems: To keep pace with new analysis needs, new modeling approaches, and new data, EPA is currently working on a new modeling system termed the Multi-scale Motor Vehicles and Equipment Emission System (MOVES). This new system will estimate emissions for on road and off road sources, cover a broad range of pollutants, and allow multiple scale analysis, from fine scale analysis to national inventory estimation. When fully implemented, MOVES will serve as the replacement for MOBILE6 and NONROAD. The new system will not necessarily be a single piece of software, but instead will encompass the necessary tools, algorithms, underlying data and guidance necessary for use in all official analyses associated with regulatory development, compliance with statutory requirements, and national/regional inventory projections. Additional information is available on the Internet: <http://www.epa.gov/otaq/ngm.htm>

References: For additional information about mobile source programs see: <http://www.epa.gov/otaq/>.

FY 2004 Performance Measures

- **Percent of Tribes with Tribal Lands Monitoring for Ozone and/or Particulate Matter**
- **Percent of Monitoring Tribes Monitoring Clean Air for Ozone**
- **Percent of Monitoring Tribes Monitoring Clean Air for Particulate Matter**

Performance Database: The Tribal Monitoring database is maintained by OAR Headquarters in Washington D.C. The database details the number and types of monitors operated by tribes in each EPA Region, with Regional and National totals by type of monitor. The database contains all available historical and current information on tribal monitors. The data are more complete after 1996.

For those tribes with ambient air quality data, which have been quality assured following published procedures (see reference below), the data are reported to the Air Quality Subsystem (AQS) and used to evaluate a tribe's or an area's air quality levels relative to the National Ambient Air Quality Standards (NAAQS). <http://www.epa.gov/ttn/airs/airsaqs/manuals/manuals.htm> Because tribes are in the early stages of building monitoring capacity, only a subset of tribes report data to AQS. (For additional information about AQS, see the Verification and Validation Section for the NAAQS.)

Data Source: Data are compiled by EPA's Regional Offices and reported to Headquarters.

Methods, Assumption, and Suitability: N/A

QA/QC procedures: EPA's Regional Offices check performance data (e.g., percent of tribes) for accuracy.

Data Quality Review: N/A

Data Limitations: Data limitations are subject to the accuracy and timeliness of reported data. The performance data (e.g., percent of tribes) do not require mathematical interpretation or analysis and are not subject to bias or uncertainty.

New/Improved Performance Data or Systems: N/A

Error Estimate: N/A

References: The data are presented to the public at appropriate meetings, and are available upon request to any member of the public.

<http://www.epa.gov/ttn/airs/airsaqs/manuals/manuals.htm>

FY 2004 Performance Measure: Number of Tribes Implementing Air Programs

Performance Database: Output Measure. The Tribal Air Program database is maintained by OAR Headquarters in Washington D.C. The database details the air programs being implemented by tribes in each EPA Region, with Regional and National totals. The database contains all available historical and current information on tribal monitors. The data are more complete after 1996.

Data Source: Data are compiled by EPA's Regional Offices and reported to Headquarters.

Methods, Assumption, and Suitability: N/A

QA/QC procedures: N/A

Data Quality Review: N/A

Data Limitations: N/A

New/Improved Performance Data or Systems: N/A

Error Estimate: N/A

References: The data are presented to the public at appropriate meetings, and are available upon request to any member of the public.

FY 2004 Performance Measure: Report on the chronic respiratory health effects in children of intra-urban gradients of particulate matter and co-pollutants in EL Paso, TX.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: Report

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2004 Performance Measure: Report on epidemiological studies examining acute cardiac and respiratory effects in the elderly and children exposed to particulate matter (PM) and co-pollutants.

Performance Database: Program output, no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: Report

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

Coordination with Other Agencies

EPA cooperates with other Federal, state, Tribal, and local agencies in achieving goals related to ground level ozone and PM. EPA continues to work closely with the Department of Agriculture and the Forest Service in developing its burning policy and reviewing practices that can reduce emissions. EPA, the Department of Transportation (DOT), and the Army Corps of Engineers work with state and local agencies to integrate transportation and air quality plans, reduce traffic congestion, and promote livable communities. EPA continues to work with the Department of the Interior, National Park Service, in developing its regional haze program and deploying the IMPROVE visibility monitoring network. The operation and analysis of data produced by the PM monitoring system is an example of the close coordination of effort between the EPA and state and Tribal governments.

EPA is working with the National Aeronautics and Space Administration (NASA) on technology transfer for using satellite imagery for pollution assessments and transports. We work with the Department of the Army, Department of Defense, on advancing emission measurement technology. We also work with the National Oceanic and Atmospheric Administration (NOAA), Department of Commerce, for meteorological support for our modeling and monitoring efforts.

The Department of Energy (DOE) and DOT fund research projects to better understand the size, source, and causes of mobile source pollution. The DOT's mobile source projects include TRANSIMS (TRansportation ANalysis and SIMulation System) and other transportation modeling projects; DOE is funding these projects through the National Renewable Energy Lab. EPA also works closely with the DOE on refinery cost modeling analyses for EPA's clean fuel programs. For mobile sources program outreach, the Agency is participating in a collaborative effort with DOT's Federal Highway Administration and the Federal Transit Administration designed to educate the public about the impacts of transportation choices on traffic congestion, air quality and human health. This community-based public education initiative also includes the Centers for Disease Control. In addition, EPA is working with DOE to identify opportunities in the Clean Cities program. We will also work with other Federal agencies such as the United States Coast Guard on air emission issues.

Research

Other than Criteria Document preparation, which is EPA's responsibility alone, the Agency's core tropospheric ozone research program is coordinated with other agencies' research efforts, including those of the Departments of Energy and Commerce, and the National Science Foundation. All exposure and risk management research in this area is coordinated through the

efforts of the North American Consortium for Atmospheric Research in Support of Air Quality Management (NARSTO), a public/private partnership whose membership spans governments, utilities, industry, and academia throughout Mexico, the United States, and Canada.

The National Academy of Sciences PM research plan serves as the principal guideline for EPA's PM research program. EPA coordinates with other Federal agencies (e.g., the National Institutes of Health and the Department of Energy) to review ongoing PM research activities and, where appropriate, refocuses activities so as to be consistent with the NAS plan. The EPA has chosen to take a broad-based approach to PM research planning and program development that includes participation by the private sector.

The PM science planning community has pointed to the need to conduct its health effects, exposure, and monitoring research in close coordination, so that PM toxicological, epidemiological, and exposure research are done in combination. EPA will continue to focus on such coordination and pursue a number of avenues to achieve public/private coordination and cooperation, including: (1) playing a lead role in coordinating all Federal agency research on PM health, exposure, and atmospheric processes under the Air Quality Research Subcommittee of the President's Committee on Environment and Natural Resources (CENR/AQRS); (2) creating an open inventory of all public and private ongoing PM research; and (3) completing a Research Strategy for PM which will benefit all organizations engaged in PM-related research.

One key opportunity for coordinating research supporting state efforts to implement the PM NAAQS is through the expansion of NARSTO, which has broadened its mission to include PM-related efforts. Complementary Federal/private coordination of effects-related research is under development, including that of the CENR/AQRS, and is being closely coordinated with the NARSTO expansion.

Statutory Authorities

Clean Air Act (42 U.S.C. 7401-7671q)

Motor Vehicle Information and Cost Savings Act and Alternative Motor Fuels Act of 1988 (AFMA)

National Highway System Designation Act

Research

Clean Air Act (42 U.S.C. 7401-7671q)

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Clean Air

Objective: Reduce Air Toxics Risk

By 2020, eliminate unacceptable risks of cancer and other significant health problems from air toxic emissions for at least 95 percent of the population, with particular attention to children and other sensitive subpopulations, and substantially reduce or eliminate adverse effects on our natural environment. By 2010, the tribes and EPA will have the information and tools to characterize and assess trends in air toxics in Indian country.

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Air Toxics Risk	\$113,811.7	\$118,023.2	\$127,747.1	\$9,723.9
Environmental Program & Management	\$56,147.2	\$56,913.9	\$59,095.2	\$2,181.3
Science & Technology	\$29,082.8	\$23,818.9	\$24,361.5	\$542.6
State and Tribal Assistance Grants	\$28,581.7	\$37,290.4	\$44,290.4	\$7,000.0
Total Workyears	375.9	371.4	378.5	7.1

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Air Toxics Research	\$18,923.4	\$19,883.7	\$20,342.4	\$458.7
Air, State, Local and Tribal Assistance Grants: Other Air Grants	\$30,790.4	\$37,290.4	\$44,290.4	\$7,000.0
Congressionally Mandated Projects	\$4,095.0	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and Operations	\$5,430.0	\$5,249.3	\$5,911.0	\$661.7
Hazardous Air Pollutants	\$52,225.5	\$52,622.4	\$54,235.7	\$1,613.3
Homeland Security-Preparedness	\$353.5	\$0.0	\$0.0	\$0.0

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Response and Recovery				
Legal Services	\$1,552.6	\$1,713.0	\$1,780.8	\$67.8
Management Services and Stewardship	\$1,288.7	\$1,264.4	\$1,147.3	(\$117.1)
Regional Management	\$0.0	\$0.0	\$39.5	\$39.5

FY 2004 Request

Toxic pollutants in the air, or deposited on soils or surface waters, may have a number of health and environmental impacts. People exposed to certain toxic air pollutants at sufficient concentrations and for sufficient periods of time are at increased risk of cancer or other serious health effects. These health effects may include damage to the immune system, neurological system, reproductive system (i.e., reduced fertility), and/or developmental and/or respiratory problems. Like humans, animals can experience health problems if exposed to sufficient concentrations of air toxics for sufficient amounts of time. Numerous studies conclude that deposited air toxics contribute to birth defects, reproductive failure, and disease in animals, too. Finally, persistent toxic air pollutants are of particular concern in aquatic ecosystems because the pollutants accumulate in sediments and may biomagnify in tissues of animals at the top of the food chain to concentrations many times higher than in the water or air.

The Clean Air Act Amendments of 1990 (CAAA) contain a variety of provisions that address air toxics from all categories of sources. Title III provides authority to regulate stationary sources of hazardous air pollutants (HAPs). Title II calls on EPA to develop standards to control HAPs from motor vehicles and vehicle fuels. The CAAA list 188 HAPs that are emitted from mobile sources, major stationary sources, and area stationary sources. EPA also has classified diesel particulate matter and diesel exhaust organic gases as air toxics.

EPA's overall goals for the air toxics program include:

- improving air quality and addressing highest health and environmental risks, while reducing program costs; getting better results in less burdensome ways; and
- increasing the roles of state, Tribal, and local governments.

EPA's air toxics program has five elements:

1. developing source-specific and sector-based Federal standards;
2. carrying out national, regional, and community-based initiatives that focus on multi-media and cumulative risks;

3. using the actual, measured and modeled data to set priorities and guide programs;
4. filling toxicity data gaps; and
5. providing public education and outreach.

Priorities for the air toxics program include:

- completing MACT standards on a schedule that avoids case-by-case decisions by states,
- developing a residual risk program to address risks at facilities post-MACT standards; working to reduce toxics from mobile sources;
- working with stakeholders to identify and address the risk reductions that matter most to local citizens; and
- developing tools, training, handbooks, and websites to provide information on how to assess risks, convene multi-stakeholder groups to make local decisions, and steps to go through to reduce risks.

Regional responsibilities include working with states, tribes, and local agencies to:

- implement MACT and other air toxics standards;
- expand monitoring of air toxics and inventories of emissions; and
- carry out community-based air toxics initiatives that identify and address issues of concern.

Progress to Date

EPA has been implementing a two-phase program to reduce emissions of HAPs from major stationary sources. In the first phase, EPA established a program to set Maximum Achievable Control Technology (MACT) standards for approximately 180 source categories emitting one or more of the 188 HAPs listed in the Act. These MACT standards create a level playing field by requiring all major sources to achieve the level of control already being achieved by the better performing sources in each category. When all the MACT rules are fully implemented in addition to efforts by states and industry, toxic emissions from large industrial facilities will decrease by 1.7 million tons per year or 63%.

As of December 31, 2002, EPA had issued 66 standards for 108 source categories with plans to issue standards for approximately another 29 standards for 58 source categories by February 2004. The Agency has proposed the last group of MACT standards, due 10 years after the CAAA, and will issue final standards by February 2004.

Many industries containing sources in the remaining source categories are very concerned that EPA did not issue standards by the May 15, 2002 "hammer date" in the CAAA.

The Act then requires industry to submit lengthy Title V permit applications recommending case-by-case MACT to permitting authorities by that date. The EPA, however, alleviated this burden to sources and states by promulgating amendments on April 5, 2002, to the section 112(j) rule (subpart B of 40 CFR 63). These amendments created a two-part application process for affected industries, with Part 1 consisting of simple source identification information, due on the hammer date, and Part 2 providing more substantive information regarding emission points, pollutants, and controls, due 24 months later. In addition, the amendments no longer require the owner or operator of the source to determine in the application which MACT would have been applicable, as was required in the original rule, although they can still recommend it.

Following litigation challenging these amendments, EPA currently is taking comments on a revised proposal. Generally, a Part 2 application would be due 60 days after the scheduled promulgation date for a specific MACT standard, if the MACT standard had not been promulgated by that time. Amendments proposing this timing were published in the Federal Register on December 9, 2002. EPA fully expects that all MACT standards, except the hazardous waste combustion Phase II MACT, will be promulgated before applications are due.

EPA also must set technology-based standards for select area sources. To date, the Agency has listed 71 area source categories that were required to be finalized in 2000. We have litigation settlement discussions ongoing to establish promulgation dates for these.

The Act, in the second phase, requires the Agency to examine each MACT standard eight years after promulgation to determine if the risk remaining from each industrial category is considered safe. While completing the final MACT, EPA has begun work on a risk-based approach to protect public health from the remaining air toxics emissions. This approach includes targeting particular problems such as residual risks from already controlled sources and elevated risks in urban areas. EPA will develop more stringent residual risk standards when appropriate, to reduce cancer and noncancer health risks in the vicinity of major industrial sources of HAPs. These standards also will help the Agency make progress with respect to its long-term GPRA goals of reducing cancer risks from stationary sources by 75% from 1990 levels and significantly reducing noncancer health risks.

In FY 2001, EPA issued the Mobile Source Air Toxics Rule (MSAT) to address emissions of air toxics from mobile sources. This 2001 MSAT rule identified 21 mobile source air toxics, which include several volatile organic compounds and metals, as well as diesel particulate matter and diesel exhaust organic gases. The MSAT rule also evaluated the effectiveness of existing mobile source emission control programs in reducing highway emissions of the identified mobile source toxics. Air toxic reductions of about 1.4 million tons are expected between 1996 and 2020 from existing programs that reduce ozone and particulate matter (PM), including: the reformulated gasoline program, the national low emission vehicle program, the emission standards for passenger vehicles, and gasoline sulfur control requirements (Tier II and the 2007 on-highway heavy-duty vehicle standards) and diesel fuel sulfur control requirements. Because the Agency recognizes that additional research and evaluation are needed to fully understand the extent of the mobile source air toxics problem, the rule established a Technical Analysis Plan for additional research of toxics emissions from nonroad vehicles and equipment, estimation of exposure in microenvironments, consideration of the range of total public exposure to air toxics, and effectiveness and costs of control measures. EPA is in the

process of reevaluating this rule to determine if more can be done cost-effectively to reduce MSATs.

Reductions in the national toxics inventory provide only a crude indicator of reductions in population exposure and do not capture local scale risks. EPA has an ongoing comprehensive evaluation of air toxics called the National Air Toxics Assessment (NATA). NATA began with emissions data for 1996, estimated ambient concentrations for 33 HAPs in each of the approximately 62,000 census tracts nationwide, estimated average exposures to people, and calculated the potential cancer and noncancer risks associated with those exposures. This assessment has been reviewed by the Science Advisory Board (SAB) and by state and local agencies. The NATA information is used by the EPA air toxics program to help set priorities, measure progress against goals, and develop study plans for more detailed local assessments, which will help identify the potentially higher exposures (i.e., hotspots) that may exist in urban environments and link these concerns to local risk reductions. The NATA will be updated periodically.

In addition, EPA is working to develop improved annual goals and performance measures for the air toxics program. A particular focus is to identify measures that matter to individuals both within and outside the Agency. To direct this analysis, EPA is viewing the air toxics program holistically, determining the expected results, and then identifying appropriate measures to report on them. Viewing the myriad of activities underway through this performance framework may help clarify the connections between activities, outputs, and outcomes. These measures might include where that information could be compiled in the short or the long term.

FY 2004 Plans

Implementation of the national air toxics strategy is at a critical juncture as EPA begins to move from a technology-based to a risk-based control program. The Agency is still responsible for setting technology-based standards for area sources. An effective risk-based program will require a sound scientific foundation. EPA will have an air toxics research strategy ready for external review in late 2003. EPA also is working with state and local agencies in a joint Air Toxics Monitoring Steering Committee to design a national toxics monitoring network. The SAB has expressed clear support to the Agency's approach for developing this capacity through monitoring pilots carried out under the sponsorship of the joint committee. The data analysis phase of the initial assessment work, reflected in a 10-city air toxics monitoring pilot project, will be completed mid-2003. Data from this effort will lead to the completion of the design of a network for a national air toxics characterization by early calendar year 2004. Early indications are that a limited, strategic network of national sites, coupled with more extensive community-scale monitoring, will provide the most representative assessment of the nation's air toxic pollution and enable EPA to better gauge the success of Agency efforts in reducing overall risks from air toxics.

In FY 2004, EPA will, as required by the Act, continue the extensive residual risk analyses for already promulgated MACT standards to determine if additional standards are necessary to reduce the remaining risks from these sources. Under the residual risk program, the Agency must establish risk-based standards for any industrial source category that poses

unacceptably high risks after a MACT standard is implemented. EPA is working to develop the significant amounts of information (e.g., emissions, source characterization, exposures) required to determine whether additional standards are needed. EPA also is developing an approach so that only those facilities within a source category that pose risks at a level of concern will have to comply with these standards. Guidance is being developed so facilities can perform facility-by-facility risk analyses to demonstrate they have low risks and are, therefore, already in compliance with the standards.

In addition to these standards, EPA determined in December 2000 that regulation was necessary and appropriate for coal- and oil-fired electric utility steam generating units. According to an existing settlement agreement, these regulations will be proposed in December 2003, promulgated in December 2004, and will bring these units into compliance by December 2007.

In FY 2004, EPA will continue to develop the state, local, and Tribal component of the Integrated Urban Air Toxics Strategy so that state, local, and Tribal agencies can address emission issues that are of concern on a state-wide, area-wide, or community-wide basis. In addition, EPA will continue to support community assessment and risk reduction projects. EPA will provide information to states and communities through case examples, documents, websites, and workshops on tools to help them in conducting assessments and identifying risk reduction strategies. We also will compile and analyze the information from local assessments and use it to better characterize risk and assess priorities for further action.

In FY 2004, EPA will assemble a national toxics inventory for the year 2002, which can be used by EPA, states, and others to analyze the public health risks from air toxics and strategies, and to manage that risk. The Agency will work with partners to develop improved emission factors. This effort will include gathering improved activity databases and using geographic information systems (GISs) and satellite remote sensing, where possible, for key point, area, mobile, and fugitive source categories and global emission events.

Through increased data collection efforts on air toxics in FY 2004, EPA also will be focusing on local hotspots and providing support on environmental justice issues. The Agency will evaluate and improve local-scale modeling efforts to support local evaluations. The EPA also plans to model air deposition emissions on a national scale using the Regulatory Modeling System for Aerosols and Deposition (REMSAD). The results of this assessment will be used to provide information to other programs, including states, which can then use the information in evaluating options for air toxic emissions reductions. The plan will also be used to identify national regulatory solutions to the air deposition problem.

EPA has continued its efforts under the Air-Water Interface Work Plan to address and prevent adverse effects of atmospheric deposition to coastal and inland waterways (i.e., Great Waters). This work involves collaboration within EPA offices and with the National Oceanic and Atmospheric Administration (NOAA). In FY 2003, EPA is updating the Air-Water Interface Work Plan and will continue to implement it in FY 2004. These efforts involve the development and support of multi-media approaches to reduce risk and achieve water quality standards, such as enhancing technical tools and developing demonstration projects that facilitate Federal, state, Tribal and Regional deposition reduction strategies. The EPA will also provide

up-to-date information regarding air deposition, emission sources, monitoring technologies, and toxic effects through education and outreach efforts. Planned outreach efforts include both synthesizing current trends information and sponsoring workshops/conferences.

Urban encroachment on farming communities and a growing number of large concentrated animal feeding operations (CAFOs) have resulted in increased citizen complaints and rising concerns that air emissions from CAFOs may have impacts on the environment and public health. At the present time, the EPA does not have emission factors sufficient to support regulatory determinations for animal agriculture. In some cases, there may not even be adequate technical approaches for characterizing the emissions. The EPA is continuing to work cooperatively with the agricultural industry, the United States Department of Agriculture (USDA), and the Congressionally established Agricultural Air Quality Task Force (AAQTF) to develop scientifically valid emission estimates from CAFOs for PM, PM₁₀, PM_{2.5}, hydrogen sulfide, ammonia, and volatile organic compounds (VOCs).

The National Academy of Sciences (NAS) was contracted to review the scientific issues and make recommendations related to characterization of the swine, beef, dairy, and poultry CAFOs industries; measuring and estimating emissions; and analyzing potential best management practices, including costs and technological feasibility. EPA received the NAS findings in December 2002. In FY 2003 and FY 2004, the Agency will make an initial policy determination as to the applicability of current air toxics regulations for CAFOs, based on the best available information. In conjunction with the USDA, the AAQTF, and stakeholders, the EPA will also begin a short-term research program to fill data gaps in the emission estimates, investigate effective and affordable mitigation techniques, and develop approaches to reduce air emissions from CAFOs. These approaches could include voluntary measures, Agency guidance materials, training and outreach, regulatory standards, or some combination of these.

The Agency will continue to evaluate health testing results and protocols from the motor fuels industry to increase information on public health risks. The Fuels and Fuel Additives Registration (FFAR) program provides for the review and screening of potential toxic substances, prior to introduction into motor vehicle fuel supplies. In FY 2004, industry will provide new and additional data. The FFAR program will continue to involve approximately 2,000 fuel manufacturers, 3,000 gasoline and diesel fuel registrations, and 6,000 additive registrations. In FY 2004, approximately 10,000 registration reports will be submitted. EPA will continue fuel additive health testing activities for motor fuels containing Methylcyclopentadienyl Manganese Tricarbonyl (MMT), Methyl Tertiary-Butyl Ether (MTBE), ethanol and other oxygenates as well as conventional non-oxygenated gasoline.

In support of EPA regulatory efforts under Title II of the Act, the Agency will continue to assess the need for and the feasibility of controlling emissions of unregulated toxic air pollutants associated with motor vehicles and fuels. The 2001 MSAT rule evaluated the effectiveness of existing highway mobile source emission control programs in reducing emissions of the identified toxics. Air toxic reductions of about 1.4 million tons are expected between 1996 and 2020 from existing programs that reduce ozone and particulate matter. In addition, the planned regulation of emissions from nonroad diesel equipment and fuel will result in substantial further reductions in diesel PM and other air toxic pollutants. The nonroad gasoline equipment rule

(Large Spark Ignition (SI)/Recreational Vehicles) also will result in substantial reductions of PM and air toxic pollutants from both exhaust and permeation emissions.

Because the Agency recognizes that additional research and evaluation are needed to fully understand the extent of the mobile source air toxics problem, the 2001 MSAT rule established a Technical Analysis Plan that outlines EPA's plans for additional research into toxics emissions from nonroad vehicles and equipment, estimation of exposure in microenvironments, consideration of the range of total public exposure to air toxics, and effectiveness and costs of control measures. This research will inform a future rulemaking in which EPA will revisit the feasibility and need for additional controls for nonroad and highway engines and vehicles and their fuels. To prepare for this review, in FY 2004 EPA will continue to gather emissions data, conduct exposure analyses, and evaluate the need for additional control, and propose a rule as appropriate.

EPA will analyze toxic emissions data currently being collected from nonroad diesel engines to assess impacts of engine type, fuel, and control systems on toxic emissions. The Agency has initiated a test program to better characterize metal emissions from motor vehicles. EPA also has initiated a project to better characterize potentially toxic PM emissions from gasoline engines. Also, the Agency has initiated or is participating in several projects to better characterize personal exposure to mobile source-related air toxics among asthmatic children in Fresno, CA, residents of Baltimore, MD, in ambient "hot spot" locations, children commuting in school buses in California, and diesel nonroad equipment operators.

The Agency also is conducting statistical analyses of existing personal exposure data to evaluate the potential contribution of mobile sources. In addition, EPA is developing a plan to assess exposures to evaporative emissions of air toxics from vehicles and equipment in attached garages. In FY 2004, EPA also will conduct modeling analyses to assess the costs of potential control strategies and their impacts on mobile source air toxic emissions, exposure, and risk.

Research

The focus of EPA's air toxics research is on risks humans experience from exposures to hazardous air pollutants (HAPs) emitted from both outdoor (mobile, point, and area) and indoor sources. The primary goal of this research is to improve the Agency's capability to support future national, regional, and local scale assessments of air toxic sources, exposures, and risks to human health. This research will lead to an improved understanding of the activities and factors that affect human exposure, the development of dose-response information necessary to determine health effects from individual HAPs and mixtures of HAPs, and the identification and determination of the risks of HAP exposures to susceptible populations. As outlined in the draft Air Toxics Research Strategy, research in FY 2004 will refine models used to estimate the sources of HAPs emissions, exposures to HAPs, and the health effects associated with those exposures.

In order to ensure the relevance of the program, research and assessment activities are guided by the draft Air Toxics Research Strategy and the draft Multi-Year Plan. These documents articulate the long-term goals, purpose, and priorities of the program, and include a scheduled timeline of research and assessment activities and the expected products including

annual performance goals and measures under the Government Performance and Results Act (GPRA). To maximize the quality of the research conducted under the Air Toxics Research program, products such as scientific publications, assessments and documents undergo peer review, with major or significant products requiring external peer review. The Agency's Peer Review Handbook (2nd Edition) codifies the procedures and guidance for conducting peer review.

EPA research will continue to refine models to estimate air toxic emissions from highway vehicles, to improve the techniques used to measure emissions from small dispersed area sources, and to improve our understanding of chemical reactions between toxic pollutants emitted from specific indoor sources and other contaminants and compounds present indoors. Research will also continue to focus on improving our understanding of how HAPs are formed and can be prevented in industrial and combustion processes and to evaluate innovative approaches to measure these emissions, including approaches that measure them on a continual basis. The emissions data produced by this research will be incorporated into multi-media human exposure models and air quality models used to evaluate potential implementation strategies.

The Community Multi-scale Air Quality (CMAQ) modeling system has been designed to approach air quality as a whole by including state-of-the-science capabilities for modeling multiple air quality issues, including tropospheric ozone, fine particles, toxics, acid deposition, and visibility degradation. In this way, the development of CMAQ involves the scientific expertise from each of these areas and combines the capabilities to enable a community modeling practice. CMAQ was also designed to have multi-scale capabilities so that separate models were not needed for urban and regional scale air quality modeling. Research in air quality modeling will expand CMAQ to include specific HAPs and will continue to develop neighborhood scale modeling capabilities to support urban and local scale assessments. To improve the fate and transport component of EPA's air quality models, air chemistry research will be conducted to characterize the lifetime and fate of urban HAPs.

A critical piece of an air toxics assessment is the estimation of actual human exposure to HAPs. Exposure research will combine modeling and measurement efforts to provide tools and data to estimate human exposure to air toxics with greater certainty. The effort will begin to provide information on the relationships between ambient, indoor, and personal air toxic concentrations for several HAPs of interest and identify key microenvironments and human activities that influence personal exposure.

Continuing health effects research will characterize dose-response and health effects of HAPs through the development of biomarkers, modes-of-action information, and exposure-dose-response information and models. This research supports the reduction of large uncertainties in quantitative estimates of the health effects of HAP compounds by developing models to extrapolate from animals to humans, and from studied HAPs to less understood HAPs that act in a biologically similar manner. The range of health effects of high priority HAPs and their mixtures (including volatile organic compounds or VOCs, and mobile source-related pollutants) will be determined under various exposure scenarios. Health effects methodology work will focus on high priority urban HAPs, including fuel and fuel additives, and indoor pollutants.

Assessment activities planned for FY 2004 will include developing cancer unit risk and chronic non-cancer inhalation reference concentrations (RfC), oral reference doses (RfD), and non-cancer acute reference exposure (ARE) values. Research will be conducted to determine whether cancer and non-cancer assessment methodologies need refinement, and testing data from fuel/fuel additives will be reviewed and associated assessments developed.

Technical support under the air toxics research program includes consulting (e.g., on listing/delisting petitions and reports to Congress), evaluating alternative fuel and fuel additive testing results, and performing assessments and consulting on fuels and fuel additives. Research support activities will also provide review and consultation for residual risk assessments, national scale assessments, and indoor air assessments.

Homeland Security

EPA's Homeland Security Research Program supports one of six Administration FY 2004 Interagency Research and Development Priorities. In FY 2004, Homeland Security rapid risk assessment research will focus on developing a population exposure modeling and forecasting system to simulate in real time the release, dispersion, transport, and fate of airborne agents, with a focus on air toxics.

FY 2004 Change from FY 2003 Request

EPM

- (+\$746,900, -0.5 FTE) These increased resources, dollars, and FTE, associated with rent, are allocated in proportion to Agency-wide FTE located in each goal and objective. Resources, dollars, and FTE, associated with utilities, security, and human resource operations are allocated in proportion to Headquarters FTE located in each goal and objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars, and FTE, associated with contracts and grants, are allocated in proportion to Headquarters' contracts and grants resources located in each goal and objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

STAG

- (+\$7,000,000) Additional air toxics monitoring is necessary to: improve the scientific basis for understanding exposure to hazardous air pollutants; assess the resultant risk to human populations and ecosystems; and to design an integrated air toxics program. EPA worked with state and local agency representatives to develop an air toxics monitoring strategy concept paper, which was reviewed by the SAB. The SAB concluded that understanding air toxics in the environment is important, and that additional resources would aid the effort to assess air toxics concentrations and improve the scientific basis for understanding exposure to these chemicals and the resulting risk. In conforming to the SAB recommendations, further expansion of the national monitoring effort will result in

significant improvements in the characterization of population exposure to air toxics. EPA is coordinating network expansion activities with state and local agency representatives, including: expanding pollutants measurement and characterization (e.g., characterizing diesel PM; expanding the number of air toxics; deploying real trends sites under the National Air Toxics Trends Stations (NATTS)); using mobile air toxic platforms to help characterize local and national control programs (e.g., mobile source controls; effects of natural gas or diesel retrofits on city-wide bus fleets); increasing PBT deposition monitoring efforts. These efforts are in addition to the continued work planned for improving models by comparing toxics monitoring and modeled data, analyzing pilot, archived, and FY 2003 NATTS data, and characterizing diesel components of urban NATTS cities.

S&T

Research

- § (+\$301,200, +1.0 FTE) Resources will be shifted to air toxics exposure studies from PM exposure research. These resources will be combined with existing air toxics exposure resources to support human exposure measurements that will provide information on the relationship between ambient, outdoor, indoor and personal exposure concentrations of air toxics and PM and to identify factors which affect these relationships and personal exposures. The resources for these studies will be leveraged with PM exposure resources. The purpose of this shift from PM to air toxics exposure is to more evenly distribute the resource contributions from each program to reflect to the joint air toxics and PM study objectives.
- (-\$159,750, -1.5 FTE) Resources will be shifted from the air toxics research to NAAQS research in order to support criteria document development. This reduction will cause minor delays to mobile source air toxics research to improve estimates of toxic emissions from on-road heavy-duty diesel vehicles.
 - (-\$170,400, -1.6 FTE) This reduction represents a shift of personnel and associated costs to support homeland security research activities in the Waste Research Program. Impacts to the Air Toxics research program include minor delays in research to determine how ozone reacts with volatile organic compounds (VOC) mixtures indoors to form toxic compounds, and the refinement, using the results of these studies, of an indoor air quality model to improve estimates of air toxic exposures from indoor sources. There are additional increases for payroll, cost of living, and enrichment for FTE.

GOAL: CLEAN AIR

OBJECTIVE: REDUCE AIR TOXICS RISK

Annual Performance Goals and Measures

Reduce Air Toxic Emissions

In 2004 Air toxics emissions nationwide from stationary and mobile sources combined will be reduced by an additional 2% of the updated 1993 baseline of 6.0 million tons for a cumulative reduction of 37%.

- In 2003 Air toxics emissions nationwide from stationary and mobile sources combined will be reduced by an additional 1% of the updated 1993 baseline of 6.0 million tons for a cumulative reduction 35%.
- In 2002 End-of-year FY 2002 data will be available in late 2004 to verify that air toxics emissions nationwide from stationary and mobile sources combined will be reduced by 1.5% from 2001 for a cumulative reduction of 33.5% from the 1993 baseline of 6.0 million tons per year.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Combined Stationary and Mobile Source Reductions in Air Toxics Emissions	Data Lag	1	2	Percent
Mobile Source Air Toxics Emissions Reduced		.68	.71	Million Tons
Stationary Source Air Toxics Emissions Reduced		1.57	1.59	Million Tons
Major Sources, Area and All Other Air Toxics Emissions Reduced		+ .12	+ .13	Million Tons

Baseline: In 1993, the last year before the MACT standards and mobile source regulations developed under the Clean Air Act began to be implemented, stationary and mobile sources are now estimated to have emitted 6.0 million tons of air toxics. (EPA's prior estimate was 4.3 million tons and was updated with improved inventory data.) Air toxics emission data are revised every three years to generate inventories for the National Toxics Inventory (NTI). In the intervening years between the update of the NTI, the model EMS-HAP (Emissions Modeling System for Hazardous Air Pollutants) is used to estimate and project annual emissions of air toxics. EMS-HAP projects emissions, by adjusting point, area and mobile emission data to account for growth and emission reductions resulting from emission reduction scenarios such as the implementation of the Maximum Achievable Control Technology (MACT) standards. The FY 2003 target does not have growth factored in. With growth, the target for 2003 is a 1% reduction from 2002 levels for a cumulative reduction of 35%.

Program Assessment Rating Tool

Air Toxics

As part of the Administration's overall evaluation of effectiveness of Government programs, the Air Toxics program was evaluated with the following specific findings:

1. There is a clear purpose and design for the program.
2. The program has not shown it is maximizing net benefits, and proposing the most cost effective regulations.
3. There are inadequate linkages between annual performance and long-term goals that prevent it from demonstrating its impact on human health.
4. There are large data gaps for toxicity and on actual population exposure.

In response to these findings, the Administration will:

1. Increase funding for toxic air pollutant programs by \$7 million in State grants for monitoring to help fill data gaps.
2. Focus on maximizing programmatic net benefits and minimizing the cost per deleterious health effect avoided.
3. Establish better performance measures (including an appropriate efficiency measure).

Verification and Validation of Performance Measures

FY 2004 Performance Measure:

- **Combined Stationary and Mobile Source Reductions in Air Toxics Emissions**
- **Mobile Source Air Toxics Emissions Reduced**
- **Stationary Source Air Toxics Emissions Reduced**
- **All Other Air Toxics Emissions Reduced**

Performance Database: National Toxics Inventory (NTI)

Data Source: The NTI includes emissions from large industrial or point sources, smaller stationary area sources, and mobile sources. The baseline NTI (for base years 1990 - 1993) includes emissions information for 188 hazardous air pollutants from more than 900 stationary sources and from mobile sources. It is based on data collected during the development of Maximum Achievable Control Technology (MACT) standards, state and local data, Toxics Release Inventory (TRI) data, and emissions estimates using accepted emission inventory methodologies. The baseline NTI contains county level emissions data and cannot be used for modeling because it does not contain facility specific data.

The 1996 and the 1999 NTI contain major industrial, area, and mobile source estimates that are used as input to National Air Toxics Assessment (NATA) modeling. The 1996 and 1999 NTI contain estimates of facility-specific HAP emissions and their source specific parameters necessary for modeling such as location and facility characteristics (stack height, exit velocity, temperature, etc.)

The primary source of data in the 1996 and 1999 NTI is state and local air pollution control agencies and tribes. These data vary in completeness, format, and quality. EPA evaluates these data and supplements them with data gathered while developing MACT and residual risk standards, industry data, and TRI data. To produce a complete model-ready national inventory, EPA estimates emissions for approximately 30 area source categories such as wildfires and residential heating sources not included in the state, local and Tribal data. Mobile source data are developed using data provided by state and local agencies and tribes and the most current onroad and nonroad models developed by EPA's Office of Transportation and Air Quality. The draft 1996 and 1999 NTI undergo extensive review by state and local agencies, tribes, industry, EPA, and the public. For more information and references on the development of the 1996 NTI, please go to the following web site: www.epa.gov/ttn/chief/nti/index.html#nti. For more information and references on the development of the 1999 NTI, please go to the following web site: www.epa.gov/ttn/chief/net/index.html#1999

Methods, Assumptions and Suitability: In the intervening years between the update of the NTI, the model EMS-HAP (Emissions Modeling System for Hazardous Air Pollutants) is used to estimate annual emissions of air toxics. EMS-HAP is an emissions processor that performs the

steps needed to process an emission inventory for input into the model. These steps include: spatial allocation of area and mobile source emissions from the county level to the census tract level, and temporal allocation of annual emission rates to annually averaged (i.e., same rate for every day of the year) 3-hour emission rates. In addition, EMS-HAP can project future emissions, by adjusting point, area and mobile emission data to account for growth and emission reductions resulting from emission reduction scenarios such as the implementation of the Maximum Achievable Control Technology (MACT) standards. For more information and references on EMS-HAP, please go to the following web site: www.epa.gov/ttn/scram/tt22.htm#aspen

QA/QC Procedures: The NTI is a database designed to house information from other primary sources. The EPA performs extensive quality assurance/quality control (QA/QC) activities to improve the quality of the emission inventory. The EPA conducts a variety of internal activities to QC NTI data provided by other organizations including: (1) the use of an automated format QC tool to identify potential errors of data integrity, code values, and range checks; (2) use of geographical information system (GIS) tools to verify facility locations; and (3) content analysis by pollutant, source category and facility to identify potential problems with emission estimates such as outliers, duplicate sites, duplicate emissions, coverage of a source category, etc. The content analysis includes a variety of comparative and statistical analyses. The comparative analyses help reviewers prioritize which source categories and pollutants to review in more detail based on comparisons using current inventory data and prior inventories. The statistical analyses help reviewers identify potential outliers by providing the minimum, maximum, average, standard deviation, and selected percentile values based on current data. The EPA is currently developing an automated QC content tool for data providers to use prior to submitting their data to EPA. After investigating errors identified using the automated QC format and GIS tools, the EPA follows specific guidance on augmenting data for missing data fields. This guidance is available at the following web site: www.epa.gov/ttn/chief/emch/invent/qaaugmemo_final.pdf

The NTI database contains data fields that indicate if a field has been augmented and identifies the augmentation method. After performing the content analysis, the EPA contacts data providers to reconcile potential errors. The draft NTI is posted for external review and includes a README file, with instructions on review of data and submission of revisions, documentation, state-by-state modeling files with all modeled data fields, and summary files to assist in the review of the data. One of the summary files includes a comparison of point source data submitted by different organizations. During the external review of the data, state and local agencies, tribes, and industry provide external QA of the inventory. The EPA evaluates proposed revisions from external reviewers and prepares memos for individual reviewers documenting incorporation of revisions and explanations if revisions were not incorporated. All revisions are tracked in the database with the source of original data and sources of subsequent revision.

The external QA and the internal QC of the inventory have resulted in significant changes in the initial emission estimates, as seen by comparison of the initial draft NTI and its final version. For more information on QA/QC of the NTI, please refer to the following web site for a paper presented at the 2002 Emission Inventory Conference in Atlanta. "QA/QC - An Integral Step in the Development of the 1999 National Emission Inventory for HAPs", Anne Pope, et al. www.epa.gov/ttn/chief/conference/ei11/qa/pope.pdf

Data Quality Review: EPA staff, state and local agencies, tribes, industry and the public have reviewed the NTI. To assist in the review of the 1999 NTI, the EPA provided a comparison of data from the 3 data sources (MACT, TRI, and state, local and Tribal inventories) for each facility. For the 1999 NTI, two periods are available for external review - October 2001 - February 2002 and October 2002 - February 2003.

Both the full draft 1996 national air toxics assessment and several of the individual components of the assessment have been subjected to the scrutiny of leading scientists throughout the country in a process called "scientific peer review." This ensures that EPA uses the best available scientific methods and information. In 2001, EPA's Science Advisory Board (SAB) reviewed the 1996 national-scale assessment. The review was generally supportive of the assessment purpose, methods, and presentation; the committee considers this an important step toward a better understanding of air toxics. Many of the SAB comments related to possible improvements for future assessments (additional national-scale assessments are being planned for the base year 1999 and for every 3 years thereafter) and raised technical issues that would merit further investigation. EPA will follow up on these issues. Additional information is available on the Internet: www.epa.gov/ttn/atw/nata/peer.html.

The following describes the various scientific peer review activities that are associated with the 1996 national air toxics assessment:

- EPA's Science Advisory Board peer-reviewed the ASPEN dispersion model used in the Cumulative Exposure Project (CEP). The Science Advisory Board issued their report in 1996. It can be found at <http://www.epa.gov/sab/fiscal96.htm>.
- The HAPEM exposure model underwent a peer review by EPA scientists and an external peer review in the summer of 2000. While the peer review identified several limitations inherent in the current methodology, it is still acknowledged as an appropriate tool to help better understand the relation of human exposures to ambient concentration levels.

Data Limitations: The NTI contains data from other primary references. Because of the different data sources, not all information in the NTI has been developed using identical methods. Also, for the same reason, there are likely some geographic areas with more detail and accuracy than others. Because of the lesser level of detail in the 1993 NTI, it is not suitable for input to dispersion models.

New/Improved Data or Systems: The 1996 and 1999 NTI are a significant improvement over the baseline 1993 NTI because of the added facility-level detail (e.g., stack heights, latitude/longitude locations), making it more useful for dispersion model input. Future inventories (2002 and later years) are expected to improve significantly because of increased interest in the NTI by regulatory agencies, environmental interests, and industry, and the greater potential for modeling and trend analysis. During the development of the 1999 NTI, all primary data submitters and reviewers were required to submit their data and revisions to EPA in a standardized format using the Agency's Central Data Exchange (CDX). For more information on CDX, please go the following web site: www.epa.gov/ttn/chief/nif/cdx.html

References: The NTI data and documentation are available at the following sites:

ftp site: <ftp://ftp.epa.gov/EmisInventory/>
Available inventories: 1996 NTI, 1999 NTI
Contents: Modeling data files for each state
Summary data files for nation
Documentation
README file
Audience: individuals who want full access to NTI files

Air DATA site: www.epa.gov/air/data/
Available inventories: 1996 NTI
Contents: Summary data files
Audience: the public

NEON: <http://ttnwww.rtpnc.epa.gov/Neon/>
Available inventories: 1996 NTI and draft 2002 version of the 1999 NTI
Contents: Summary data files
Audience: EPA staff

CHIEF: www.epa.gov/ttn/chief
1999 NTI data development materials
1999 Data Incorporation Plan - describes how EPA will compile the 1999 NTI
QC tool for data submitters
Data Augmentation Memo - describes procedures EPA will use to augment data
99 NTI Q's and A's - provides answers to frequently asked questions
NIF (Input Format) files and descriptions
CDX Data Submittal Procedures - instructions on how to submit data using CDX
Training materials on development of HAP emission inventories
Emission factor documents, databases, and models
Audience: state and local agencies, tribes, industry, EPA, and the public

Coordination with Other Agencies

EPA coordinates with many other agencies and organizations to achieve reductions of risk from air toxics. EPA works with the Department of Energy (DOE) on several fuels programs. Other programs targeted to reduce air toxics from mobile sources are coordinated with the Department of Transportation (DOT). These partnerships can involve policy assessments and toxic emission reduction strategies in different regions of the country.

EPA is also forming partnerships with the Department of Defense (DOD) in the development of new continuous source monitoring technology for toxic metals emitted from smokestacks. This partnership will provide a new source monitoring tool that will streamline source monitoring requirements that a number of DOD incinerators are required to meet and improve the operation of DOD incinerators with real-time emissions information resulting in reduced releases of air toxics to the environment. In time, this technology is expected to be available for use at non-DOD facilities.

EPA also works closely with the DOE on refinery cost modeling analyses for EPA's clean fuel programs. For mobile sources program outreach, the Agency is participating in a collaborative effort with DOT's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) designed to educate the public about the impacts of transportation choices on traffic congestion, air quality, and public health. This community-based public education initiative also includes the Centers for Disease Control (CDC). In addition, EPA works with DOE to identify opportunities in the Clean Cities program. EPA also works cooperatively with DOE to better characterize gasoline PM emissions and characterize the contribution of gasoline vehicles and engine emissions to ambient PM levels.

The Agency is continuing to work closely with the Department of Labor's Occupational Safety and Health Administration (OSHA) to coordinate the development of EPA and OSHA standards, where necessary, to ensure that MACT standards designed to reduce air toxic emissions do not inadvertently increase worker exposures. EPA also works closely with other health agencies such as the CDC, the National Institute of Environmental Health Sciences (NIEHS), and the National Institute for Occupational Safety and Health on health risk characterization. To assess atmospheric deposition and characterize ecological effects, EPA works with the Department of Commerce's National Oceanic and Atmospheric Administration and the Department of the Interior's United States Fish and Wildlife Service.

The Agency has worked extensively with the Department of Health and Human Services (HHS) on the National Health and Nutritional Evaluation Study to identify mercury accumulations in humans. EPA also has worked with DOE on the 'Fate of Mercury' study to characterize mercury transport and traceability in Lake Superior.

During FY 2004, EPA will continue to work closely with the USDA through the joint USDA/EPA AAQTF. The AAQTF is a workgroup set up by Congress to oversee agricultural air quality-related issues. The AAQTF is working to determine the extent to which agricultural activities contribute to air pollution and to develop cost-effective ways in which the agricultural community can improve air quality. In addition, the AAQTF coordinates research on agricultural air quality issues to avoid duplication and ensure data quality and sound interpretation of data.

Research

EPA's Air Toxics Research Program works with other Federal agencies, such as the National Institute of Environmental Health Sciences (NIEHS) and the National Toxicology Program (NTP), on an ad hoc basis to identify and coordinate research needs. The Health Effects Institute conducts complementary research related to air toxics that is coordinated with EPA activities.

Statutory Authorities

Clean Air Act Title I, Part A and Part D, Subparts 3 and 5 (42 U.S.C. 7401-7431, 7512-7512a, 7514-7514a) (15 U.S.C. 2605)

Clean Air Act Amendments. Title II (42 U.S.C. 7521-7590)

Clean Air Act Amendments. Title IV (42 U.S.C. 7651-7661f)

Research

Clean Air Act (CAA) (42 U.S.C. 7401-7671q)

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Clean Air

Objective: Reduce Acid Rain.

By 2005, reduce ambient nitrates and total nitrogen deposition to 1990 levels. By 2010, reduce ambient sulfates and total sulfur deposition by up to 30 percent from 1990 levels.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Acid Rain.	\$21,563.8	\$21,097.8	\$21,230.8	\$133.0
Environmental Program & Management	\$15,383.7	\$15,278.9	\$15,411.9	\$133.0
Science & Technology	\$4,321.0	\$3,991.2	\$3,991.2	\$0.0
State and Tribal Assistance Grants	\$1,859.1	\$1,827.7	\$1,827.7	\$0.0
Total Workyears	90.9	91.5	87.3	-4.2

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Acid Rain -CASTNet	\$3,991.2	\$3,991.2	\$3,991.2	\$0.0
Acid Rain -Program Implementation	\$12,500.2	\$12,790.4	\$12,812.7	\$22.3
Air, State, Local and Tribal Assistance Grants: Other Air Grants	\$1,827.7	\$1,827.7	\$1,827.7	\$0.0
Congressionally Mandated Projects	\$250.0	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and Operations	\$1,311.5	\$1,292.6	\$1,357.1	\$64.5
Legal Services	\$834.7	\$923.5	\$957.5	\$33.8
Management Services and	\$276.0	\$272.4	\$284.8	\$12.4

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Stewardship				

FY 2004 Request

Emissions of sulfur dioxide (SO₂), mostly from electric power generation and other industrial sources, and nitrogen oxides (NO_x), mostly from electric power generation sources and motor vehicles, react in the atmosphere and fall to earth as acid deposition or "acid rain." Acid rain causes acidification of soils, lakes, and streams, making the water unsuitable for some fish and other wildlife and contributing to the damage of trees at high elevations. Acid rain also speeds the decay of buildings, statues, and sculptures that are part of our national heritage. Before falling to earth, SO₂ and NO_x gases form fine particles that adversely affect human health by contributing to premature deaths, chronic bronchitis, and other respiratory problems. The fine particles also contribute to reduced visibility, and impair some of our most scenic vistas at national parks. Acid rain and its precursor SO₂ and NO_x emissions are carried by the wind, sometimes hundreds of miles, across state and national borders. NO_x emissions also are a major precursor of ozone, which contributes to asthma and other respiratory illnesses and damages crops, forests, and materials. NO_x deposition also contributes to eutrophication of coastal waters, such as the Chesapeake Bay and Tampa Bay.

The Acid Rain Program, authorized under Title IV of the Clean Air Act Amendments of 1990, focuses primarily on SO₂ and NO_x emissions from electric utilities, and has numerous statutory deadlines. Title II of the Clean Air Act Amendments requires reductions in NO_x emissions from mobile sources. The United States also is committed to reductions in SO₂ and NO_x emissions under the United States-Canada Air Quality Agreement of 1991. EPA's Acid Rain Program uses market-based approaches to achieve these emission reductions. The Program provides affected sources with flexibility to meet required emission reductions at the lowest cost (both to industry and government). The SO₂ component features tradable units called "allowances" (one allowance authorizes the emission of one ton of SO₂), accurate and verifiable measurements of emissions, and a cap on total emissions. The Acid Rain Program continues to be recognized as a model for flexible and effective regulation, both in the United States and abroad.

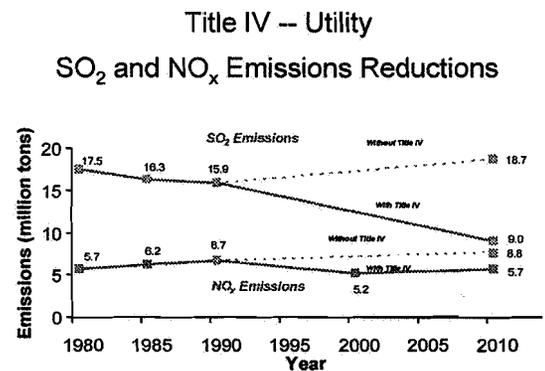
Major Acid Rain Program activities include: measurement, quality assurance, and tracking of SO₂, NO_x, and CO₂ emissions, as recorded by Continuous Emissions Monitors (CEMs) or equivalent continuous monitoring methods at more than 2,500 reporting electric utility units; conducting field audits and certifying emissions monitors; recording transfers of emission allowances in the SO₂ allowance tracking system; reconciling emissions and allowances for all affected sources to ensure compliance; and processing of permit actions.

The Acid Rain Program developed through two phases. Phase I of the Program began in 1995, requiring SO₂ reductions from approximately 400 electric utility units. Phase I also required approximately 250 of these units to make NO_x reductions beginning in 1996. Phase II of the Program began in 2000 and required reductions in SO₂ emissions from more than 2,500

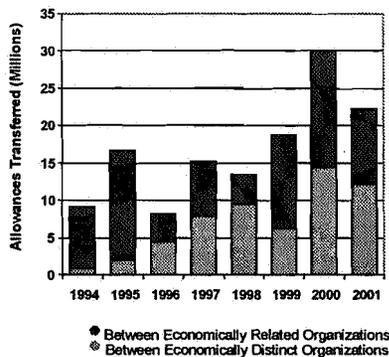
operating electric utility units (gas-fired, oil-fired, and coal-fired) and reductions in year-round NO_x emissions from approximately 1,000 coal-fired units. In addition, the number of subject sources is increasing steadily as new capacity is built into the system to meet the Nation's expanding energy demands. Since 2000, 126 new operating sources have been added to the system, an increase of over 5 percent.

This growth has resulted in a steady increase in the number of units affected by the trading program and a significant increase in emissions tracking, SO₂ allowance trading, and account reconciliation activities conducted by EPA during Phase II of the Program. In 2001, 4,900 allowance transfers that affected over 22 million SO₂ allowances were recorded in the Allowance Transfer System, the accounting system developed to track holdings of allowances. EPA launched the On-Line Allowance Transfer System (OATS) in December 2001. This time-saving electronic system enables allowance market participants to record trades directly on the Internet, rather than submitting paper forms. Approximately 90% of all allowance transfers are now completed on line.

In addition to these operational activities, the Acid Rain Program is responsible for managing the Clean Air Status and Trends Network (CASTNet), a dry deposition monitoring network, as well as for providing critical operational support for the National Atmospheric Deposition Program (NADP), a wet deposition network. These monitoring efforts play a crucial role in the Program's ongoing assessment activities, including reporting outcomes under the Government Performance and Results Act (GPRA), and fulfilling assessment responsibilities under the United States-Canada Air Quality Agreement and Title IX of the Clean Air Act Amendments. In addition, the Program provides analytical support for the National Acid Precipitation Assessment



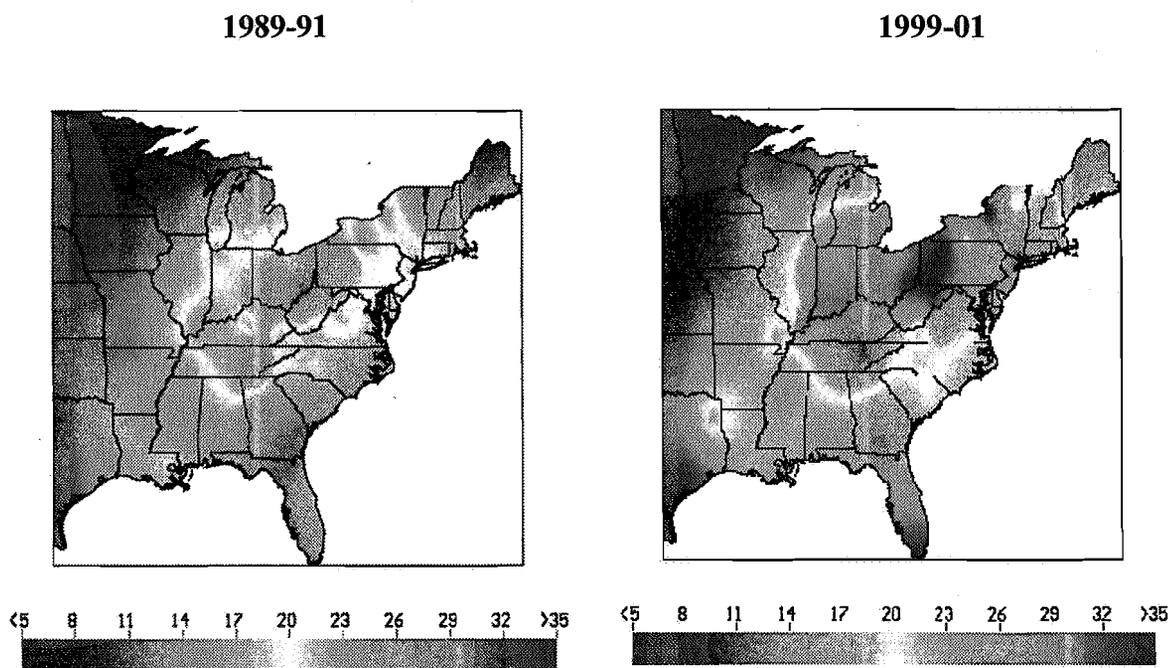
Program (NAPAP). NAPAP coordinates Federal acid deposition research and monitoring of emissions, acidic deposition, and their effects, including assessing the costs and benefits of Title IV. In 2004, the Acid Rain Program will continue analyzing the costs and benefits of the Program for inclusion in NAPAP's Integrated Assessment Report.



We estimate that when fully implemented in 2010, the SO₂ reductions alone under Title IV will provide \$50 billion (1997 dollars) in health benefits (mostly from an estimated reduction in premature mortality of 9,000 cases per year) and \$1 billion in additional benefits

due to improved visibility from an expected 30 percent improvement in visibility at national parks in the eastern United States. The Acid Rain Program also will produce significant benefits in terms of lowered surface water acidity and less damage to materials and high-elevation forests. Nevertheless, after full implementation of the current program, significant residual risks will remain to human health, ecological systems, and quality of life. Thus, the Clear Skies Initiative is needed to address this deficiency as well as issues related to visibility impairment and attainment of the national air quality standards for fine particles and ozone. Over the next decade, Clear Skies is projected to further reduce SO₂ and NO_x by another 35 million tons. EPA believes that the additional health benefits from this will exceed \$96 billion by 2020 due mainly to reduced mortality from reduced concentrations of fine particulate matter.

Sulfate Deposition in Acid Rain Reduced (kg/ha)



These maps represent snapshots of wet sulfate deposition over time. Wet sulfur deposition has been reduced by up to 25% over a large area of the Eastern United States as a result of the Acid Rain Program.

GOAL: CLEAN AIR

OBJECTIVE: REDUCE ACID RAIN.

Annual Performance Goals and Measures

Reduce SO₂ Emissions

- In 2004 Maintain or increase annual SO₂ emission reduction of approximately 5 million tons from the 1980 baseline. Keep annual emissions below level authorized by allowance holdings and make progress towards achievement of Year 2010 SO₂ emissions cap for utilities.
- In 2003 Maintain or increase annual SO₂ emission reduction of approximately 5 million tons from the 1980 baseline. Keep annual emissions below level authorized by allowance holdings and make progress towards achievement of Year 2010 SO₂ emissions cap for utilities.
- In 2002 On track to ensure that EPA maintains or increases annual SO₂ emission reduction of approximately 5 million tons from the 1980 baseline. Keep annual emissions below level authorized by allowance holdings and make progress towards achievement of Year 2010 SO₂ emissions cap for utilities.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	Tons Reduced
SO ₂ Emissions	Data Lag	5,000,000	5,000,000	

Baseline: The base of comparison for assessing progress on the annual performance goal is the 1980 emissions baseline. The 1980 SO₂ emissions inventory totals 17.5 million tons for electric utility sources. This inventory was developed by National Acid Precipitation Assessment Program (NAPAP) and used as the basis for reductions in Title IV of the Clean Air Act Amendments. This data is also contained in EPA's National Air Pollutant Emissions Trends Report. A statutory SO₂ emission cap for year 2010 and later is at 8.95 million tons which is approximately 8.5 million tons below 1980 emissions level. "Allowable SO₂ emission level" consists of allowance allocations granted to sources each year under several provisions of the Act and additional allowances carried over, or banked, from previous years.

Reduce NO_x Emissions

- In 2004 2 million tons of NO_x from coal-fired utility sources will be reduced from levels that would have been emitted without implementation of Title IV of the Clean Air Act Amendments.
- In 2003 2 million tons of NO_x from coal-fired utility sources will be reduced from levels that would have been emitted without implementation of Title IV of the Clean Air Act Amendments.
- In 2002 On track to ensure that 2 million tons of NO_x from coal-fired utility sources are reduced from levels that would have been emitted without implementation of Title IV of the Clean Air Act Amendments.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	Tons Reduced
NO _x Reductions	Data Lag	2,000,000	2,000,000	

Baseline: Performance Baseline: The base of comparison for assessing progress on this annual performance goal is emissions that would have occurred in the absence of Title IV of the Clean Air Act Amendments. These emissions levels are calculated using actual annual heat input and the baseline (uncontrolled) NO_x emission rates by boiler type from the preamble to the final rule (61 FR 67112, December 19, 1996).

Verification and Validation of Performance Measures

FY 2004 Performance Measure: SO₂ and NO_x emission reductions

Performance Database: Emissions Tracking System (ETS), SO₂ and NO_x emissions collected by Continuous Emission Monitoring Systems (CEMS) or equivalent continuous monitoring methods, CASTNet (dry deposition), National Atmospheric Deposition Program (NADP) (wet deposition).

Data Source: On a quarterly basis, ETS receives and processes hourly measurements of SO₂, NO_x, volumetric flow, CO₂, and other emission-related parameters from more than 2,500 fossil fuel-fired utility units affected under the Title IV Acid Rain Program. For the 5-month ozone season (May 1 - September 30), ETS receives and processes hourly NO_x measurements from electric generation units (EGUs) and certain large industrial combustion units affected by the Ozone Transport Commission (OTC) NO_x Budget Program, the NO_x SIP Call, and/or the Section 126 of the Clean Air Act controlling for regional transport of ozone in the eastern United States. In 2004, the initial compliance year for the NO_x SIP Call, up to 2000 units in as many as 20 States and D.C. will be reporting seasonal NO_x data to ETS. Over 900 units have been reporting these data since 1999 under the OTC NO_x Budget Program.

CASTNet measures particle and gas acidic deposition chemistry. Specifically, CASTNet measures sulfate and nitrate dry deposition and meteorological information at approximately 70 active monitoring sites. CASTNet is primarily an eastern, long-term dry deposition network funded, operated and maintained by EPA's Office of Air and Radiation (OAR).

The NADP is a national long-term wet deposition network that measures precipitation chemistry and provides long-term geographic and temporal trends in concentration and deposition of major cations and anions. Specifically, NADP provides measurements of sulfate and nitrate wet deposition at approximately 200 active monitoring sites. EPA, along with several other Federal agencies, states, and other private organizations, provide funding and support for NADP. The Illinois State Water Survey/University of Illinois maintains the NADP database.

Methods, Assumption, and Suitability: Promulgated methods are used to aggregate data across all United States utilities for each pollutant and related source operating parameters.

QA/QC Procedures: QA/QC requirements dictate performing a series of quality assurance tests of CEMS performance. For these tests, emissions data are collected under highly structured, carefully designed testing conditions, which involve either high quality standard reference materials or multiple instruments performing simultaneous emission measurements. The resulting data are screened and analyzed using a battery of statistical procedures, including one that tests for systematic bias. If a CEM fails the bias test, indicating a potential for systematic underestimation of emissions, the source of the error must be identified and corrected or the data are adjusted to minimize the bias. Further information available on the Internet: <http://www.epa.gov/airmarkets/reporting/arp/closure2001.html> and <http://www.epa.gov/airmarkets/monitoring/bias/index.html>

CASTNet established a Quality Assurance Project Plan (QAPP) in November 2001; a copy of which is available at <http://www.epa.gov/castnet/library/qapp.html>. The QAPP contains data quality objectives and quality control procedures for accuracy and precision.

NADP has established data quality objectives and quality control procedures for accuracy, precision and representation, available on the Internet: <http://nadp.sws.uiuc.edu/QA/>. The intended use of these data is to establish spatial and temporal trends in wet deposition and precipitation chemistry.

Data Quality Review: The ETS provides instant feedback to sources on data reporting problems, format errors, and inconsistencies. The electronic data file QA checks are described at <http://www.epa.gov/airmarkets/reporting/arp/closure2001.html> under EPA's *Quarterly Report Review Process*. All quarterly reports are analyzed to detect deficiencies and to identify reports that must be resubmitted to correct problems. EPA also identifies reports that were not submitted by the appropriate reporting deadline. Revised quarterly reports must be obtained from sources by a specified deadline to correct deficiencies found during the Data Review process. All data are reviewed, and preliminary and final emissions data reports are prepared for public release and compliance determination.

CASTNet underwent formal peer review in 1997 by a panel of scientists from EPA and NOAA. Findings are documented in *Examination of CASTNet: Data, Results, Costs, and Implications* (United States EPA, Office of Research and Development, National Exposure Research Laboratory, February 1997).

The NADP methods of determining wet deposition values have undergone extensive peer review, handled entirely by the NADP housed at the Illinois State Water Survey/University of Illinois. Assessments of changes in NADP methods are developed primarily through the academic community and reviewed through the technical literature process.

Data Limitations: In order to improve the spatial resolution of CASTNet, additional monitoring sites are needed.

Error Estimate: None

New/Improved Data or Systems: None planned

References: For additional information about CASTNet, see <http://www.epa.gov/castnet/> and for NADP, see <http://nadp.sws.uiuc.edu/>. For a description of EPA's Acid Rain program, see <http://www.epa.gov/airmarkets/acidrain/> and in the electronic Code of Federal Regulations at <http://www.epa.gov/docs/epacfr40/chapt-I.info/subch-C.htm> (40 CFR parts 72-78.)

Coordination with Other Agencies

EPA participates with NAPAP, which coordinates Federal acid rain research and monitoring under the auspices of the National Science and Technology Council Committee on Environment and Natural Resources. As required by Title IX of the 1990 Clean Air Act Amendments, NAPAP prepares a biennial report that evaluates the costs, benefits, and effectiveness of the Acid Deposition Control Program under Title IV of the 1990 Clean Air Act Amendments. The NAPAP assessment is a multi-agency effort requiring cooperation and coordination among EPA, the Department of Energy, the Department of Agriculture, the Department of the Interior, the National Aeronautics and Space Administration, and the National Oceanic and Atmospheric Administration.

Statutory Authorities

Clean Air Act Amendments, Title I (42 U.S.C. 7401-7514a)

Clean Air Act Amendments, Title IV (42 U.S.C. 7651-7661f)

Clean Air Act Amendments, Title IX (42 U.S.C. 7403-7404)

Goal 2: Clean Water

Environmental Protection Agency
2004 Annual Performance Plan and Congressional Justification
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Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Clean and Safe Water

Strategic Goal: All Americans will have drinking water that is clean and safe to drink. Effective protection of America's rivers, lakes, wetlands, aquifers, and coastal and ocean waters will sustain fish, plants, and wildlife, as well as recreational, subsistence, and economic activities. Watersheds and their aquatic ecosystems will be restored and protected to improve human health, enhance water quality, reduce flooding, and provide habitat for wildlife.

Resource Summary (Dollars in thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Clean and Safe Water	\$3,870,039.5	\$3,214,674.2	\$2,952,472.9	(\$262,201.3)
Safe Drinking Water, Fish and Recreational Waters	\$1,355,114.4	\$1,148,425.1	\$1,198,942.3	\$50,517.2
Protect Watersheds and Aquatic Communities	\$474,725.2	\$435,814.7	\$479,787.4	\$43,972.7
Reduce Loadings and Air Deposition	\$2,040,199.9	\$1,630,434.4	\$1,273,743.2	(\$356,691.2)
Total Workyears	2,681.8	2,742.8	2,776.4	33.6

Background and Context

Over the almost thirty years since enactment of the Clean Water Act (CWA) and Safe Drinking Water Act (SDWA), government, citizens, and the private sector have worked together to make dramatic improvements in the quality of surface waters and drinking water supplies. Cleaner, safer water has led to a rebirth of recreational, ecological, and economic values in communities across the Nation. Despite tangible improvements in the quality of the Nation's waters, water pollution and drinking water problems remain. States and tribes are in the middle of the complex process of adopting and implementing statewide watershed approaches that in turn require strong standards, monitoring, Total Maximum Daily Loads (TMDLs), and implementation (e.g. National Pollutant Discharge Elimination System (NPDES) permit) programs. EPA and states are facing backlogs, court challenges, and petitions to withdraw state program authorization. In recognition of these challenges, the FY 2004 President's Budget provides additional resources to help address these issues and continue the water quality improvements of the past 30 years.

Means and Strategy

To achieve the Nation's clean and safe water goals, EPA will operate under an overarching watershed approach in carrying out its statutory authorities under both the SDWA Amendments of 1996 and the CWA. In FY 2004, the Agency will place particular emphasis on the core water programs – monitoring and assessment, standard setting, watershed planning, and implementation (i.e., NPDES and drinking water). Requested resources will help address serious challenges now facing these core programs. Moreover, the overall effect of individual core program improvements will be a stronger, better coordinated water management framework to help ensure timely local and national decision making, improved program implementation, and better information sharing. From setting goals to protect health and the environment in water quality standards and criteria to measuring success and identifying problems through water quality monitoring and assessment, and from watershed planning and load allocations to implementing pollution control measures, each program element relies on the others to ensure the achievement of the Clean and Safe Water goal.

The core programs are fundamental underpinnings of the watershed approach. Without a strong core program, states, tribes, local and other Federal partners would not be able to join in the protection of our waters at the watershed level. At the watershed level, local managers can better understand the cumulative impact of their activities, determine the most critical problems, better allocate limited financial and human resources, engage stakeholders, win public support, and make real improvements in the environment. EPA continues to encourage watershed approaches not only for core water programs but also as a way to integrate efforts of sister agencies, states, tribes, local governments, industry and nonprofit organizations. In addition, EPA is encouraging a number of important program innovations that focus on managing water resources at the watershed level, including trading, watershed permitting, and watershed based TMDLs. On January 13, 2003, EPA released a new Water Quality Trading Policy to cut industrial, municipal and agricultural discharges into the nation's waterways. The trading policy seeks to support and encourage states and tribes in developing and putting into place water quality trading programs that implement the requirements of the Clean Water and Federal regulations in more flexible ways and reduce the cost of improving and maintaining the quality of the nation's waters. The policy will help increase the pace and success of cleaning up impaired rivers, streams and lakes throughout the country.

As part of core programs, EPA will continue to implement the SDWA, as amended in 1996. The central provisions of the Amendments include: 1) improving the way that EPA sets drinking water safety standards and develops regulations based on good science, prioritization of effort, sound risk assessment, and effective risk management; 2) providing flexibility to the states in monitoring for certain contaminants and in setting time frames for compliance with regulations, and providing funding for improvements to drinking water infrastructure through the Drinking Water State Revolving Fund (DWSRF); 3) establishing new prevention approaches, including provisions for operator certification, capacity development, and source water protection; and 4) providing better information to consumers, including consumer confidence reports.

EPA will continue efforts to provide states and tribes with tools and information to assist them in protecting their residents from health risks associated with contaminated recreational

waters and fish caught through noncommercial means. EPA activities include development of water quality criteria, enhanced fish tissue monitoring, development of fish and shellfish consumption advisories, and risk assessment activities. For beaches, EPA's strategy is to strengthen beach standards and testing, improve the scientific basis for beach assessment, and develop methods to inform the public about beach conditions. Beach water quality monitoring and public notification will be improved by providing grants to state and local governments under CWA Section 406.

Key to the watershed approach is continued development of scientifically based water quality standards and criteria under the CWA and better consolidated identification of waters not meeting these goals under CWA Sections 303(d) and 305(b). Where water quality standards are not being met, EPA will work with states and tribes to improve implementation of a TMDL program that establishes the analytical basis for watershed-based decisions on needed pollutant reductions. To support states and tribes in their standards adoption and TMDL programs, EPA will continue to provide scientifically sound criteria and guidance for toxic chemicals, nutrients, biological integrity, microbial, and physical stressors. In particular, the focus will be on updating the aquatic life guidelines to incorporate new and emerging science, integrating aquatic life, biological, and nutrient criteria to better address state uses, helping build state and Tribal technical capacity, and addressing sedimentation.

EPA will work with Federal, state, Tribal, local and private sector partners to protect wetlands. In coordination with the Corps of Engineers, EPA will improve the CWA Section 404 program to achieve no net loss of wetlands by avoiding, minimizing and compensating for losses. With an emphasis on community-based restoration, EPA will contribute to the goal of an annual net increase of wetlands of 100,000 acres by FY 2005. EPA will increase assistance to states and tribes to protect all waters, including those that are not regulated by the CWA, and to improve monitoring of wetlands. EPA will be part of coordinated Federal agency efforts to support conservation of fauna, including the North American Bird Conservation Initiative and Partners for Amphibians and Reptile Conservation.

EPA will continue to develop and revise national effluent guideline limitations and standards, capitalize and manage the Clean Water State Revolving Fund (CWSRF) program and other funding mechanisms, and target the NPDES permit program to achieve progress toward attainment of water quality standards and support implementation of TMDLs in impaired water bodies.

EPA is assisting states and tribes to characterize risks, rank priorities, and implement an effective mix of voluntary and regulatory approaches through improved state nonpoint source (NPS) management programs. Working with EPA, states and tribes are strengthening their NPS programs to ensure that needed NPS controls are implemented to achieve and maintain beneficial uses of water. In particular, EPA and the states are working together to better use the CWA Section 319 framework and funds to develop and implement TMDLs to restore waters impaired by NPS pollution. States will continue to implement coastal NPS programs approved by EPA and the National Oceanic and Atmospheric Administration under the Coastal Zone Act Reauthorization Amendments (CZARA).

The new Farm Bill, with its significantly increased funds to address agricultural sources of NPS pollution, affords EPA and the states an enhanced opportunity to significantly accelerate national efforts to control NPS pollution. EPA and state water quality agencies will work closely and cooperatively with the United States Department of Agriculture (USDA), conservation districts, and others in the agricultural community, to combine our strengths. Using CWA Section 319 dollars, states will both address their priority watershed restoration needs and focus more of their efforts on providing the monitoring and watershed-planning support needed by the agricultural community to target their work most effectively on the highest-priority water quality needs. States will also increasingly focus their existing efforts on filling gaps remaining in USDA programs, especially demonstrating the effectiveness of promising emerging technologies.

States will use their enhanced watershed planning efforts to ensure that their watershed protection and remediation efforts holistically address all significant pollution sources in the watershed in a comprehensive manner. To do so, states will also increase their focus upon NPS categories and activities that are not funded under the Farm Bill (e.g., urban runoff, forestry, and abandoned mines), while continuing to work with the agriculture community to solve problems on a watershed basis. Furthermore, states will continue to use a variety of program tools to foster an ethic of pollution prevention in their NPS watershed programs, such as low impact development techniques, source prevention, and public education, to assure that water quality improvement and protection become a permanent outcome of the program.

The Administration's evaluation of Nonpoint Source Grant, Drinking Water State Revolving Fund and Tribal GAP Grant (See Goal 4 Overview) programs in the PART process were completed in FY 2003.

The Administration's PART assessment conducted for the Drinking Water SRF program found that the program has clear purpose, effective design and strong management practices. However, EPA has been unable to demonstrate the degree to which the program's drinking water infrastructure investments protect public health, a primary purpose of the program. A challenge facing the Drinking Water SRF program is to develop measurable long-term and annual performance goals that link the program to its public health mission. The PART results support the Administration's decision to extend Federal capitalization of the Drinking Water SRF program and to strengthen its focus on accountability. In response to the PART findings, EPA will develop new outcome-based performance measures that better demonstrate the impact of the program.

The Administration's PART assessment conducted for the Nonpoint Source Grant program found that the purpose is clear but the program has not collected sufficient performance information to determine whether it has had a significant effect on pollution. The programs greatest weaknesses are strategic planning and a lack of measurable program results. Therefore, the program lacks adequate long term annual and efficiency measures. However, new performance measures are being developed that focus on outcomes and efficiency. Significant improvements have been made to program management over the past years, which will improve the Agency's ability to develop new performance measures. In addition, as a result of the Farm Bill, the Agency is working with USDA to coordinate NPS efforts in agricultural in a complementary manner.

Research

EPA's water research program supports the Agency's Clean and Safe Water Goal by providing the scientific basis necessary to protect human health and the environment. Implementation of the research provisions in the 1996 Safe Drinking Water Act (SDWA) amendments and the Clean Water Act will provide improved tools (e.g., methods, models, risk assessments, management strategies, and new data) to better evaluate the risks posed by chemical and microbial contaminants that persist in the environment and threaten wildlife and, potentially, human health.

The focus of the drinking water research program will be on filling key data gaps and developing analytical detection methods for measuring the occurrence of chemical and microbial contaminants on the Contaminant Candidate List (CCL) and developing and evaluating cost-effective treatment technologies for removing pathogens from water supplies while minimizing disinfection by-product (DBP) formation. Water quality research will improve risk assessment methods to develop aquatic life, sediment, habitat, and wildlife criteria, as well as risk management strategies, and will help EPA and other Federal, state, and local agencies develop better baseline assessments of water quality. The Agency will also develop diagnostic tools to evaluate human and ecological exposures to toxic constituents of wet weather flows such as combined-sewer overflows, sanitary-sewer overflows, and storm water.

Several mechanisms are in place to ensure a high-quality research program at EPA. The Research Strategies Advisory Committee (RSAC) of EPA's Science Advisory Board (SAB), an independently chartered Federal Advisory Committee Act (FACA) committee, meets annually to conduct an in-depth review and analysis of EPA's Science and Technology account. The RSAC provides its findings to the House Science Committee and sends a written report on the findings to EPA's Administrator after every annual review. Moreover, EPA's Board of Scientific Counselors (BOSC) provides counsel to the Assistant Administrator for the Office of Research and Development (ORD) on the operation of ORD's research program. Also, under the Science to Achieve Results (STAR) program all research projects are selected for funding through a rigorous competitive external peer review process designed to ensure that only the highest quality efforts receive funding support. EPA's scientific and technical work products must also undergo either internal or external peer review, with major or significant products requiring external peer review. The Agency's Peer Review Handbook (2nd Edition) codifies procedures and guidance for conducting peer review.

Highlights

Core Water Programs

Water Quality Monitoring

Current water quality monitoring efforts yield insufficient data for states and others to make watershed-based decisions, to develop necessary standards and TMDLs, and to accurately and consistently portray conditions and trends. A key component in FY 2004 is the support of enhanced monitoring and assessment, by working with the states with a particular emphasis on

the probabilistic approach and providing additional support to encourage the establishment of state-level monitoring councils and local watershed monitoring consortiums.

Water Quality Standards

Water quality standards establish the environmental baseline used to measure success in implementing Clean Water programs. In FY 2004, EPA will increase funding to work with state and Tribal partners to ensure that water quality standards are effective and appropriate for use in developing TMDLs. The National Research Council's 2001 assessment of the TMDL program found that the designated uses and criteria in existing standards often need more detail and refinement before they can be used as a firm basis for requiring load reductions through TMDLs. To address this concern, EPA in FY 2004 will provide technical guidance and training that will help states and tribes conduct their own use attainability analyses, and to help refine and interpret standards to ensure they are adequate for use in developing load reduction targets. In addition, EPA conducted a customer-focused review of the National Standards program and developed a draft long-term strategy that calls for improvements and streamlining in EPA's program. EPA will implement the high priorities in the strategy. EPA will also accelerate the technical reviews necessary for EPA to approve new or revised state/Tribal standards on a timely basis for use in TMDLs.

TMDLs

The Agency will continue to work with states and tribes to carry out their TMDL programs focused more, in FY 2004, on a watershed basis to identify those waters not meeting clean water goals. The Agency will also continue to help restore impaired watersheds, and to meet the many court-supervised deadlines for completing TMDLs. While increasing the pace of TMDL development remains important, EPA must work with states to help assure implementation of already-approved TMDLs, including targeting CWA Section 319 NPS funding and marshaling Farm Bill conservation programs. EPA will assist states in revising their continuing planning processes under CWA Section 303(e) to place more emphasis on assuring needed watershed implementation.

NPDES

In recent years the authorized state NPDES programs have been the object of an increasing number of withdrawal petitions, citizen lawsuits, and independent reviews indicating potential noncompliance with Federal CWA requirements. A substantial number of states are experiencing difficulty with the timely issuance of NPDES permits. Recently completed permit quality reviews (PQRs) indicate that permits lack comprehensiveness and the requirements necessary to achieve water quality standards. In FY 2004, EPA, in partnership with the states, will ensure that facilities required to have permits are covered by current permits that are effective and include all conditions needed to ensure water quality protection.

Drinking Water Implementation

The proposed increase for the drinking water program will strengthen EPA's ability to meet states' and systems' increasingly complex implementation assistance needs. This

assistance is critical for the national program to meet its long-term objective of providing drinking water that meets all priority regulations, within five years of the effective date of each standard, to at least 95 percent of the population served by community water systems. The increased resources in this request are targeted toward developing more effective state programs and increasing the technical and managerial capacity of drinking water systems to comply with drinking water regulations, especially the arsenic and microbial, disinfectant and disinfection byproducts rules. In addition, EPA will focus increased resources on the Area-Wide Optimization Program (AWOP), which is designed to reduce consumers' exposure to microbial contaminants by improving the performance of small systems' filtering technology.

Oceans and Coastal Protection

To strengthen protection of the nation's ocean resources, EPA proposes to address significant gaps in ocean and coastal protection in specific high priority issues. Recent legislation regarding cruise ships in Alaskan waters and Government Accounting Office and other reports has demonstrated the need to enhance cruise ship regulation and address continuing violations of existing standards. In response, EPA will enhance its regulation of discharges of pollution from vessels, including sewage discharges, cruise ship discharges, and operational discharges from vessels of the Armed Forces - Uniform National Discharge Standards - taking into consideration the concerns of the Armed Forces. In addition, EPA will place a strong emphasis on developing ballast water standards for aquatic nuisance species. EPA will also bolster its Marine Protection, Research, and Sanctuaries Act (MPRSA) responsibilities regarding site evaluation, designation and monitoring, and permit review and concurrence. In particular, EPA will work to expeditiously refine the site designation and management of the Historic Area Remediation Site (HARS) off the New Jersey coast.

Other Priorities

Homeland Security

Protecting critical water infrastructure (drinking water and wastewater utilities) from terrorist and other intentional acts will continue to be a high priority in FY 2004. EPA is the primary Federal agency responsible for protecting public health and ensuring the safety of critical water infrastructure from terrorist or other intentional acts. Currently, there are approximately 54,000 community drinking water systems and almost 16,000 wastewater utilities nationwide. Both types of water utilities serve approximately 264 million people. EPA's principal goal related to critical water infrastructure is to work with the states, tribes, drinking water and wastewater utilities, and other partners to assess the security of these water utilities as soon as possible and develop appropriate emergency response plans.

Water Infrastructure

In Puerto Rico, inadequate drinking water infrastructure has created a significant daily health risk to consumers. Less than 20 percent of the population receives drinking water that meets all health-based standards. Puerto Rico's compliance problem is a major challenge in the national effort to ensure that 95 percent of the population served by community water systems receives drinking water that meets all health-based standards. As a first step toward improved

public health protection in Puerto Rico, the Agency requests additional grant funds to design the necessary infrastructure improvements. When all upgrades are complete, EPA estimates that about 1.4 million people will benefit from safer, cleaner drinking water. In addition, the Agency estimates that 200 to 300 excess cases of cancer will be avoided, and risks of gastroenteritis and other waterborne diseases will be greatly reduced.

Wetlands

In 2001 the Supreme Court determined that some isolated waters and wetlands are not regulated under the CWA. Many waters with important aquatic values are no longer covered by CWA Section 404 protections. EPA is proposing an increase in grants to states and tribes to help them protect these waters as part of comprehensive programs that will achieve no net loss of wetlands, while also providing grant funding for states and tribes to assume more decision-making authority in waters that remain subject to the CWA.

Research

In FY 2004, EPA's drinking water research program will continue to conduct research to reduce the uncertainties of risk associated with exposure to microbial contaminants in drinking water and improve analytical methods and risk assessments to control risks posed by drinking water contamination. As required by the SDWA amendments, the first Contaminant Candidate List (CCL) was published in 1998 and included nine microbial contaminants in its Research Priorities Category that require more data before a regulatory determination could be made. The drinking water research program will continue to focus on chemical and microbial contaminants on current and future CCLs. Significant data gaps still exist on the occurrence of harmful microbes in source and distribution system water, linkages between water exposure and infection, and the effectiveness of candidate treatment technologies to remove and inactivate these contaminants. Research efforts will also continue to support arsenic-specific research and development of more cost-effective treatment technologies for the removal of arsenic from small community drinking water systems. This work will include strategies for the acceptable control of water treatment residuals enriched with arsenic.

Research to support the protection and enhancement of aquatic ecosystems and their biotic components includes understanding the structure, function, and characteristics of aquatic systems, and evaluating exposures and effects of stressors on those systems. EPA is also working to develop biological and landscape indicators of ecosystem condition, sources of impairment, stressor response/fate and transport models and options for managing stressors and their sources. Through the development of a framework for diagnosing adverse effects of chemical pollutants in surface waters, EPA will be able to evaluate the risks posed by chemicals that persist in the environment and accumulate in the food chain, threatening wildlife and potentially human health. The Agency will also develop and evaluate more cost-effective technologies and approaches for managing sediments, and evaluate management options for watershed restoration of TMDLs for other significant stressors (e.g., nutrients, pathogens and toxic compounds). Finally, research to address uncertainties associated with determining and reducing the risks to human health of the production and application of treated wastewater sludge (biosolids) to land for use as fertilizers is emerging as an area of renewed importance for the Agency.

Another area of research will focus on growing evidence of the risk of infectious diseases resulting from exposure to microbes in recreational waters. Exposure to these diseases is of particular concern after major rainfall events that cause discharges from both point and non-point sources. These events pose significant risks to human and ecological health through the uncontrolled release of pathogenic bacteria, protozoans, and viruses, as well as a number of potentially toxic, bioaccumulative contaminants. EPA will develop and validate effective watershed management strategies and tools for controlling wet weather flows (WWFs), including: 1) new and improved indicator methods to describe the toxic inputs to watersheds from WWFs; 2) methods to utilize condition and diagnostic ecological indicators in evaluating wet weather flow management strategies in preventing degradation of water and sediment quality by contaminated runoff; 3) methods for diagnosing multiple stressors in watershed ecosystems; and 4) evaluation of low cost watershed best management practices to evaluate risks associated with various control technologies for wet weather flows. This will enable EPA to provide states with consistent monitoring methods, standardized indicators of contamination, and standardized definitions of what constitutes a risk to public health.

External Factors

Drinking Water and Source Water

The adoption of health-based and other programmatic regulations by drinking water agencies is an important external factor. The 53 states and territories that have primary enforcement authority (primacy) for drinking water regulations must have sufficient staff and resources to help public water systems implement, and comply with, drinking water regulations. As authorized in the enabling legislation for the DWSRF, states may use funds set-aside from the DWSRF for state drinking water implementation activities. However, for many states the need to preserve DWSRF funding to close the infrastructure gap is more important. A related challenge is the cost of providing safe drinking water: The 2001 Drinking Water Needs Survey (DWNS) estimates drinking water infrastructure needs at \$150.9 billion over the next 20 years.

Although the 1996 SDWA expanded source water protection to include surface as well as ground water sources of drinking water, the implementation of source water protection programs is not mandated under SDWA. In FY 2004 and beyond, as the statutorily mandated source water assessments are completed, and more states and communities take voluntary measures to implement contamination prevention programs, the Agency will become increasingly dependent on its partnerships with states, tribes and communities to achieve national source water protection goals.

Full implementation of the Underground Injection Control (UIC) program, including 1999 regulations for two types of shallow injection wells, depends on effective state and local participation. Because of the sheer number of shallow injection wells - - approximately 700,000 nationwide - - that must be inventoried and managed, implementation of the overall UIC program could be affected by continuing resource constraints at the state and Federal levels. In addition, the Agency has full or partial direct implementation responsibility for 17 states, the District of Columbia and all tribes.

Fish and Recreational Waters

The CWA does not require that states or tribes operate fish advisory or beach protection programs. The Agency's role is primarily to support them through guidance, scientific information, and technical assistance. EPA cannot take regulatory action to assure that states and tribes conform to fish consumption advisory guidance; therefore, success depends on voluntary state/Tribal/local commitment to achieving these goals. The Agency will continue to develop scientifically sound water quality criteria to protect human health in order to reduce the number of fish advisories and beach advisories or closures necessary in the future.

The Beaches Environmental Assessment and Coastal Health (BEACH) Act of 2000 authorizes Federal funds for states and tribes to monitor pathogens at coastal and Great Lakes beaches and notify the public of advisories or closures. However, the states and tribes are not required to operate a program if they do not accept Federal funds. The Agency expects that all 35 eligible states or territories will continue operating a Federally funded program in FY 2004.

One way of determining whether we have reduced the consumption of contaminated fish and shellfish is to find out if people eat the fish they catch from waters where fish advisories have been issued. In order to determine whether we have reduced exposure to contaminated recreational waters, we also need to know if people comply with beach closure notices when they are issued. Acquiring statistical evidence for such determinations is difficult. For the fish advisory program, this information has been collected by some states, and is being reviewed to provide insight to state and Tribal advisory programs on how they can improve their programs. For the beach programs, this information will be collected for those states or tribes, which have applied for BEACH Act grants. However, this information will only reflect coastal and Great Lakes beaches in those states and tribes that have received grants.

Without comprehensive, consistent monitoring of all the Nation's waters, we do not know how many waters should be under advisory or how many beaches should be closed. The resource demands of implementing a comprehensive monitoring program pose a significant challenge for the states and could be a mitigating factor for success in this area.

Watersheds and Wetlands

EPA's efforts to meet our watershed protection objective are predicated on strengthening and broadening our relationships with our Federal, state, Tribal, and local partners. Because of the vast geographic scope of water quality and wetlands impairments and the large number of partners upon whose efforts we depend, EPA must continue to build lasting, working relationships with all stakeholders including communities, individuals, business, state and local governments and tribes. EPA's ability to meet this objective will depend on the success of state and local regulatory and non-regulatory programs and nationwide efforts to provide and use a broad range of policy, planning, and scientific tools to establish local goals and assess progress.

Given the interrelations of the Federal government's environmental protection and stewardship agency and programs, Federal agencies must work together with states and tribes to maximize achievements. Without continued government-wide coordination and commitment, we will not meet our water quality objectives. For example, marshaling Farm Bill conservation

programs to tackle state water quality priorities is crucial, particularly to enhancement of state NPS management programs. Following our FY 2003 CWA Section 319 grant guidance, states are developing watershed plans for priority impaired bodies of water that delineate the specific technical and financial resources required to enable implementation. The states will also need to continue efforts to overcome historical institutional barriers to achieve full implementation of their coastal NPS control programs as required under the CZARA.

States and tribes, with increased EPA grant support, will assume more responsibility for comprehensive protection of wetlands and other waters, including those the Supreme Court has determined are not subject to CWA protections. Responding to the National Academy of Sciences finding that the CWA Section 404 program fails to achieve no net loss, EPA and the Corps of Engineers, with other agencies and stakeholders, will improve the program's compensatory mitigation features. EPA will develop methods and provide technical assistance and grant support for monitoring and reporting on the condition of wetlands.

EPA will continue to improve our understanding of the environmental baseline and our ability to track progress against goals, which also depends on external parties. While current state CWA Section 305(b) reporting provides some assessment of water quality, we must continue to provide support to our partners and stakeholders in their efforts to work with state water quality agencies to improve measurement tools and data-sharing capabilities, including facilitating consolidation of CWA Section 305(b) reports and CWA Section 303(d) lists. EPA is working with states to improve our tracking and measurement of NPS load reductions from the CWA Section 319 program. Also, as states adopt TMDLs, we will have specific targets for point source and NPS load reductions needed to meet water quality standards in impaired waters.

Point Sources

Clean water goals associated with reduction of pollutant discharges from point sources through the NPDES permitting program rely heavily on EPA's partnership with states as 45 states and one territory are currently authorized to carry out the NPDES program. EPA will also work with the states to reduce pollution from onsite—/decentralized wastewater treatment systems, including septic systems. EPA estimates that between 10 and 30 percent of all onsite/decentralized systems nationwide are not performing as designed, treating waste inadequately, and therefore failing to protect public health and the environment.

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Clean and Safe Water

Objective: Safe Drinking Water, Fish and Recreational Waters

By 2005, protect public health so that 95% of the population served by community water systems will receive water that meets drinking water standards, consumption of contaminated fish and shellfish will be reduced, and exposure to microbial and other forms of contamination in waters used for recreation will be reduced.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Safe Drinking Water, Fish and Recreational Waters	\$1,355,114.4	\$1,148,425.1	\$1,198,942.3	\$50,517.2
Environmental Program & Management	\$130,668.7	\$110,143.9	\$122,107.8	\$11,963.9
Science & Technology	\$135,442.5	\$69,230.1	\$87,734.5	\$18,504.4
State and Tribal Assistance Grants	\$1,089,003.2	\$969,051.1	\$989,100.0	\$20,048.9
Total Workyears	854.8	887.4	921.9	34.5

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Beach Grants	\$10,000.0	\$10,000.0	\$10,000.0	\$0.0
Congressionally Mandated Projects	\$143,897.2	\$0.0	\$0.0	\$0.0
Drinking Water Implementation	\$38,332.9	\$38,935.0	\$44,338.7	\$5,403.7
Drinking Water Regulations	\$28,597.4	\$30,034.0	\$31,434.9	\$1,400.9
Facilities Infrastructure and Operations	\$12,116.5	\$12,372.6	\$13,196.1	\$823.5
Fish Contamination/Consumption	\$2,764.8	\$2,788.4	\$2,831.2	\$42.8

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Homeland Security-Critical Infrastructure Protection	\$89,740.5	\$21,946.5	\$32,389.1	\$10,442.6
Homeland Security-Preparedness, Response and Recovery	\$1,317.6	\$0.0	\$10,768.2	\$10,768.2
Legal Services	\$1,206.3	\$1,317.6	\$1,362.4	\$44.8
Management Services and Stewardship	\$4,025.0	\$4,240.2	\$4,323.7	\$83.5
Planning and Resource Management	\$0.0	\$0.0	\$41.4	\$41.4
Preventing Contamination of Drinking Water Sources	\$23,470.2	\$22,096.8	\$23,311.9	\$1,215.1
Regional Management	\$357.7	\$309.2	\$755.1	\$445.9
Safe Drinking Water Research	\$45,579.5	\$49,491.0	\$49,231.3	(\$259.7)
Safe Recreational Waters	\$834.4	\$842.7	\$858.3	\$15.6
State PWSS Grants	\$93,100.2	\$93,100.2	\$105,100.0	\$11,999.8
State Underground Injection Control Grants	\$10,950.9	\$10,950.9	\$11,000.0	\$49.1
Water Infrastructure: Puerto Rico	\$0.0	\$0.0	\$8,000.0	\$8,000.0
Water Infrastructure: Drinking Water State Revolving Fund (DW-SRF)	\$850,000.0	\$850,000.0	\$850,000.0	\$0.0

FY 2004 Request

Drinking water is essential to the health of all Americans, and a reliable, affordable supply of safe drinking water contributes to the quality of life in communities nationwide. To enhance the ability of the national drinking water program to reduce health risks from contaminated water supplies, Congress passed the 1996 Safe Drinking Water Act (SDWA) Amendments. The SDWA, as amended, requires source water assessments and protection plans; development of drinking water regulations based on sound science and risk assessments; affordable financing of drinking water infrastructure improvements needed to comply with existing and new regulations; and greater consumer awareness of the importance of safe drinking water to protect human health. Collectively, these and other changes strengthened the safe drinking water program by creating a balanced, integrated framework that comprises multiple protective barriers to protect Americans from unsafe drinking water. Consistent with the 1996 SDWA Amendments, EPA, states, tribes and utilities are engaged in a wide array of complementary regulatory and non-regulatory activities designed to strengthen those barriers. These activities include: source water assessment and protection; risk-based development of scientifically sound drinking water regulations; ensuring qualified system operators; guidance, training and technical assistance to build and maintain the capacity of state and

Tribal drinking water systems to comply with drinking water standards; and informing consumers of the quality of their drinking water through annual consumer confidence reports.

The provision of safe drinking water remains a significant challenge, however, as EPA and its partners continue to work together to provide safe, affordable drinking water while reducing the public health risks to Americans' drinking water supplies. These risks include contamination of source water from point and nonpoint sources of pollution, unregulated contaminants of public health concern, and the aging of treatment plants, storage facilities, and distribution systems. To protect consumers from these risks to public health, EPA and other Federal agencies, states, tribes, utilities and stakeholders work together to implement the national safe drinking water program. In FY 2004, the Agency is proposing an increase to strengthen its ability to meet states' and systems' complex implementation assistance needs. By the end of FY 2004, the Agency and its partners will protect public health so that 1) not less than 92 percent of the population served by community water systems continues to receive drinking water meeting all 1994-or-earlier health-based standards, up from 83 percent in 1994, and 2) not less than 85 percent of the population served by community water systems continues to receive drinking water meeting all health-based standards promulgated in 1998 or later.

Preventing Contamination of Drinking Water Sources

To reduce or eliminate the amounts of contaminants entering water supplies, the 1996 SDWA expanded source water protection to include surface as well as ground water sources of drinking water. Source water protection is a common-sense way to provide safe drinking water at less cost: it reduces the amount of contaminants in water supplies, lowering treatment costs, and these cost savings can then be passed on to consumers. Such cost savings are particularly important for small systems and tribes, which may have less technical, financial and managerial capacity to operate a drinking water system. As such, source water protection is an effective complement to treatment technology in protecting public health. For the approximately 140 million Americans who get their drinking water from ground water sources, source water protection is often the only barrier against contamination.

Under the 1996 SDWA, states must develop EPA-approved source water programs, and complete source water assessments by: delineating the drinking water source area; conducting inventories of known and potential sources of contamination within these areas; determining the susceptibility of the water supply system to contamination; and notifying the public about identified threats. Although some states have requested an extension to complete up to 39,000 source water assessments for community water systems in FY 2003, by the end of FY 2004, the Agency expects that EPA-approved state programs will have completed high quality baseline assessments for 47,000 community water systems nationwide. So that the public and all Federal agencies will have access to the completed assessments, the Agency will work with states and tribes to place the data on GIS databases to facilitate effective contamination prevention activities focused on high-priority source water areas.

Because the completed assessments are precursors to actual protection of source water, states and local governments also are developing and implementing contamination prevention programs. In FY 2004 EPA will provide training and technical assistance to states and communities that are taking voluntary measures to prevent, reduce, or eliminate contamination threats to source

water, and developing contingency plans. The training and assistance will focus on statewide contamination prevention strategies for coordinating local activities across jurisdictions. By the end of FY 2004, EPA's source water protection program anticipates meeting its 2004 goal of having 7,500 community water systems with source water protection programs in place, protecting 25 percent of the population served by community water systems.

Ensuring safe underground injection is a fundamental component of a comprehensive source water protection program, and under the SDWA, any injection activity that may endanger an underground source of drinking water is prohibited. EPA works with states and communities to ensure the proper underground injection of approximately 9 billion gallons of hazardous waste every year, over 2 billion gallons of brine from oil and gas operations every day, and significant amounts of automotive, industrial, sanitary and other wastes that are injected into shallow wells. Management or closure of the approximately 700,000 shallow (Class V) wells nationwide remains a top priority for the Agency's Underground Injection Control (UIC) program. In December 1999, EPA issued UIC Class V regulations requiring additional protective measures for managing risks from two types of shallow wells: motor vehicle waste disposal wells and large capacity cesspools. In June 2002, after extensive analysis and stakeholder involvement, EPA issued a *Federal Register* determination, based on current data on the contamination risks from Class V wells, not to establish additional regulatory requirements for more than two-dozen other types of shallow wells. In lieu of new regulations, in FY 2004 EPA will continue to provide support for UIC primacy states in the implementation of a comprehensive Class V management strategy initiated in FY 2003 to prevent improper disposal or injection into other Class V wells. As a result, EPA and states will have inventoried and taken preventive action on tens of thousands of shallow wells by the end of FY 2004.

EPA and primacy states also will continue to: educate and assist well operators; work with industry and other stakeholders to collect and evaluate data on Class V wells; and explore non-regulatory best management practices that effectively protect underground sources of drinking water. For the other classes of injection wells, such as hazardous and non-hazardous waste wells, and oil and gas production wells, the Agency will continue to provide states and tribes with the technical assistance they request to implement UIC regulations. Finally, EPA will continue to implement, in full or in part, the UIC program for 17 states, the District of Columbia, and all Federally recognized tribes.

An important step in the maturing EPA-state partnership to protect source water is the ongoing, joint implementation of a national database and performance measures for contamination prevention activities. In FY 2004, EPA will work with states to gather baseline data on the health risk reduction in communities that have taken measures to protect source water.

Homeland Security

Legislation and national policy strategies are the principal drivers for critical water infrastructure protection activities. For instance, Presidential Decision Directive 63 designated EPA as the lead Federal agency for the water sector and assigned it to work with this sector to identify vulnerabilities of infrastructure to terrorist and criminal attacks. In September 1998, the Agency established a public/private partnership with water-related organizations and subsequently appointed the Executive Director of the Association of Metropolitan Water

Agencies (AMWA), as the water sector liaison to the Federal government on critical water infrastructure issues. AMWA assumed primary responsibility for establishing a computer-based, world wide web-driven system to insure appropriate, timely, and secure distribution of information to drinking water and wastewater utilities on threats. This activity evolved into an Information Sharing and Analysis Center (ISAC), which will become fully operational in FY 2003. FY 2004 resources will help support the ongoing operations and management of the ISAC.

In FY 2004, requirements set forth in the Public Health Security and Bioterrorism Emergency and Response Act of 2002 (hereafter referred to as the Bioterrorism Act of 2002) apply to about 90 percent of the community water systems subject to this statute. The Bioterrorism Act of 2002 directed drinking water systems that provide water to more than 3,300 people to assess their vulnerability to terrorist or other intentional attacks, certify the completion of such vulnerability assessments, and submit copies of final vulnerability assessments to EPA for secure and confidential storage. In addition, these same systems must prepare or revise their emergency response plans based on the findings of their vulnerability assessments and certify, again to EPA, that this requirement has been completed. Statutory deadlines for both vulnerability assessments and emergency response plans were set according to the population served by community water systems. The specific populations and the due dates are as follows (the current number of systems serving the population cited is shown in parentheses):

Research

Research in the area of water security will focus on developing, testing and communicating/implementing enhanced methods for detection, treatment, and containment of biological and chemical warfare agents and bulk industrial chemicals intentionally introduced into drinking water systems. Work in FY 2004 will focus on:

- Detection of Contaminants--Testing/verification of existing detection devices; development of new devices or methods for rapid response; and design of a detection network. Emphasis will be placed on: characterizing contaminants that pose threats, developing standard field screening and laboratory analysis methodologies and approaches, validating sensor technologies for detecting contaminants and monitoring water quality, developing and evaluating biological monitoring, and verifying the performance of commercially-ready detection and monitoring techniques and technologies.
- Containment of Contaminants--Development, evaluation and testing of methods and procedures for preventing the spread of contaminants in drinking water sources and distribution systems. Emphasis will be placed on: developing, testing, and verifying the performance of containment techniques and technologies and then transferring these techniques and technologies to water managers and public health officials.
- Decontamination of Contaminated Drinking Water--Development, evaluation, and testing of methods, technologies, and procedures for decontaminating drinking water, with consideration of efficacy, utility, safety, and cost. Emphasis will be placed on: developing point-of-use and point-of-entry technology for removing contaminants,

developing and deploying new analytical, neutralizing, and remedial techniques to assist in decontamination, characterizing and treating by-products that result from contaminants, and verifying the performance of commercially-ready decontamination technologies.

- **Scientific and Technical Support--Providing support to agency regulatory program within EPA for understanding and managing events.** Emphasis will be placed on: developing a database of contaminant characters for first responders, refining detection, containment, and decontamination techniques and technologies based on vulnerability assessments, improving approaches for coordination of water managers and public health officials in event response, and enhancing physical security of water systems through new design and security techniques and facility hardening practices.
- **Risk Communication-Transfer of Improved Methods to Users--Providing guidance and technical support on improved detection, containment and decontamination methods for utility managers and emergency responders.** Emphasis will be placed on: instituting monitoring approaches and networks to help public health officials identify and control disease outbreaks, and transferring techniques and technologies to utility managers and first responders.

Systems	Vulnerability Assessments Deadlines	Emergency Response Plans Deadlines
100,000 or more (~425)	3/31/03	9/30/03
>50,000 -<99,999 (~ 460)	12/31/03	6/30/04
>3,300 - < 49,999 (~7,500)	6/30/04	12/31/04

EPA will focus its efforts and resources to assist the approximately 8,000 community water systems that serve water to more than 3,300 but less than 100,000 people. These systems will be in various stages of conducting vulnerability assessments and preparing/revising emergency response plans in FY 2004. Vulnerability assessment models and self assessment tools already developed and used by large and very large drinking water systems in FYs 2002 and 2003, will be adapted where appropriate to accommodate the needs of these systems. While not subject to the Bioterrorism Act of 2002, wastewater systems, especially the some 6,000 systems that serve more than 10,000 but fewer than 150,000 people, will also be conducting vulnerability assessments and developing or revising emergency response plans. It is anticipated that the approximately 8,000 drinking water and ~6,000 wastewater systems will rely heavily on EPA's and the states' staff knowledge and expertise in the range of vulnerabilities to be considered and assessed. Unlike systems that serve 100,000 or more, medium and small systems may not have sufficient technical capacity on hand to carry out the many activities related to vulnerability assessments and emergency response plans. Consequently, EPA, in collaboration with the states and stakeholders, will support the full menu of technical assistance and training approaches to ensure that a comprehensive vulnerability assessment and a robust emergency response plan have been achieved by all of these systems.

Scientific and technical analyses, especially on methods and technologies, which will improve the overall capacity to protect critical water infrastructure are also important components of the Bioterrorism Act of 2002. Much work is needed in identifying and assessing contaminants and analyzing their effects on public health if introduced into water and wastewater systems. In addition, attention must be directed to potential bioagents and other contaminants that could be deleterious to human health through exposure to water. Examples of activities to be conducted in these important areas include: 1) identifying and addressing gaps in analytical methodology for existing technology, 2) developing methods' protocols for screening drinking water contaminated with an unknown substance, 3) evaluating current analytical capacities of laboratories to assure preparedness, and 4) developing additional laboratory capacity and capability as necessary. Testing technologies that can detect that bioagents/contaminants deliberately added to drinking water supplies as well as treatment techniques for water and wastewater collection, storage, and treatment systems will also be a major focus in FY 2004. Verification of existing technology applicable to water resources as well as continuing emphasis on and support of new technologies are critical activities in the Agency's effort to safeguard public health. EPA's Offices of Water and Research and Development will be conducting and supporting these activities through a coordinated plan that was developed in FY 2003.

In addition to these water security-specific actions, EPA must be an effective partner in homeland security efforts within the Executive Branch. EPA will continue to coordinate with other Federal agencies, especially the newly-established Department of Homeland Security as well as the Centers for Disease Control and Prevention, the Food and Drug Administration, and the Department of Defense on biological, chemical, and radiological contaminants, and how to respond to their presence in drinking water and wastewater systems. A close linkage with the FBI, particularly with respect to ensuring the effectiveness of the ISAC, will be continued. The Agency will strengthen its working relationships with the American Water Works Association Research Foundation, the Water Environment Research Federation and other research institutions to increase our knowledge on technologies to detect contaminants, monitoring protocols and techniques, and treatment effectiveness.

Setting Drinking Water Standards

One of EPA's fundamental responsibilities under the SDWA is to promulgate legal limits, called maximum contaminant levels (MCLs) or treatment techniques, for potentially unhealthy levels of chemicals, radioactive elements, and microorganisms that may be found in our drinking water. EPA fulfills this important responsibility by developing National Primary Drinking Water Regulations (NPDWRs) that establish maximum allowable levels of these contaminants. Systems' treatment of drinking water to comply with NPDWRs serves as another barrier that protects public health from unsafe drinking water. To maximize the effectiveness of drinking water regulations, the SDWA requires that standards be based on sound science and risk assessments, and that regulatory priorities reflect relative risk and health effects data. In addition, SDWA requires EPA to evaluate periodically a range of scientific data relating to existing standards to ensure that they provide the maximum level of public health protection.

Microbial contaminants, such as bacteria, viruses and protozoa, create a particularly difficult risk management challenge for the drinking water program. Some microbes, such as *Cryptosporidium*, are widespread parasites that are highly resistant to chlorine and other

disinfectants. In addition, disinfection itself can create human health risks, because chemical disinfectants are unsafe at certain concentrations, and can react with naturally-occurring substances in water to form unintended disinfection byproducts (DBPs). The SDWA therefore requires the Agency to develop a set of regulations for microbes, disinfectants, and disinfection byproducts - called the M/DBP regulations - that balances reducing the health risks from microbes with limiting consumers' exposure to DBPs.

Currently the drinking water standards program is engaged in a long-term effort to complete the three remaining M/DBP regulations: the Long-Term 2 Enhanced Surface Water Treatment rule (LT2), the Ground Water Rule (GWR), and the final Stage 2 Disinfection/Disinfection Byproducts rule (Stage 2). Although the Agency had initially scheduled the promulgation of these rules in FY 2003, in FYs 2001 and 2002 the drinking water program was required to focus its regulatory efforts on the scientific and economic underpinnings of regulations for other SDWA priority contaminants. In addition, stakeholder input has prompted EPA to do additional analyses of treatment effectiveness of alternative control strategies, and the underlying costs and benefits, for these M/DBP rules. As a result, the Agency expects to promulgate the three remaining M/DBP rules in FY 2004. When fully implemented, LT2 will prevent up to an estimated 54,000 cases of cryptosporidiosis annually, resulting in a reduction of 10 to 104 deaths associated with this disease. EPA also expects that LT2 will reduce the public's exposure to other pathogens that are associated with *Cryptosporidium*, such as *Giardia*. The proposed GWR establishes several mechanisms to protect ground water sources of drinking water from microbial contamination, and includes a targeted strategy to identify ground water-based systems at high risk for fecal contamination. Stage 2 will reduce the incidence of cancer, as well as potential reproductive developmental health effects from exposure to peak levels of DBPs occurring in water distribution systems. Consistent with the SDWA requirement that drinking water standards balance the risks from exposure to pathogens with the risks from exposure to DBPs, the Agency will promulgate LT2 and Stage 2 concurrently.

As part of the September 2000 Federal Advisory Committee Act (FACA) Agreement in Principle on LT2 and Stage 2, the Agency also will complete development of risk-based monitoring programs for both regulations to target only vulnerable facilities that require additional treatment. The LT2 monitoring program will be designed to help the drinking water program identify the most cost-effective treatment technologies for particular treatment facilities with high levels of *Cryptosporidium* in their source water. The Stage 2 monitoring program will be designed to help drinking water systems determine where peak levels of DBPs occur within distribution systems. Based on the results of these monitoring programs, EPA and states should be able to focus their technical assistance resources on individual, high-risk systems and develop site-specific requirements necessary to manage those risks. Also in accordance with this Agreement in Principle, in FY 2004 EPA will complete preliminary steps to develop a Distribution System rule, an activity stemming from its six-year review of the Total Coliform Rule (discussed below). The Agency is revising this rule to reduce health risks from exposure to microbes resulting from cross connections and backflow, biofilms, and main breaks in aging distribution systems.

As EPA completes the remaining mandated NPDWRs, in FY 2004 the drinking water standards program also will increase its focus on the potential health risks from currently unregulated drinking water contaminants of public health concern, and on possible revisions to existing standards based on its six-year review of drinking water regulations. Under the SDWA, every five years the Agency's drinking water program must develop a Contaminant Candidate List

(CCL) to set regulatory priorities, and within two years of publishing the CCL must determine whether to propose regulations for CCL priority contaminants. Under recommendations from the National Research Council (NRC) and National Drinking Water Advisory Council (NDWAC), EPA published the first CCL (CCL1) in 1998. The CCL1 divided contaminants into three categories: 1) regulatory priorities; 2) those for which additional occurrence data are needed; and 3) those that require additional research into health effects, treatment technologies, or analytical detection methods. For CCL priority contaminants, EPA evaluates the sufficiency of data on current analytical and treatment methods; the best available peer-reviewed health effects studies; and analytical records of contaminant occurrence in drinking water systems. If there are adequate data for a contaminant in each of these areas, EPA is able to determine whether a risk-based drinking water standard is necessary. In June 2002 EPA published a preliminary determination that regulations are not warranted for the nine CCL1 priority contaminants for which there were sufficient data. In FY 2004, however, the Agency will continue to conduct research and collect data on the remaining CCL1 contaminants. As a result of these ongoing analyses, the Agency will be prepared to make additional "off cycle" determinations for CCL1 contaminants, consistent with the SDWA's risk-based approach to setting drinking water standards. In addition to ongoing evaluation of CCL1 contaminants, in FY 2004 EPA will conduct formal risk assessments; gather occurrence data; identify potential treatment technologies and analytical methods; and develop supporting documentation to make its next round of regulatory determinations for contaminants based on the second CCL (CCL2) published in February 2003. As part of this effort, the standards program will evaluate and implement the comprehensive 2001 National Research Council (NRC) recommendations for screening and evaluating over 100,000 potential chemical and microbial contaminants. This effort will require intensive stakeholder participation and expert input.

The SDWA also requires EPA to review and, if appropriate, revise each NPDWR no less frequently than once every six years to ensure that existing regulations maintain or increase public health protection. In accordance with the six-year review protocol developed in consultation with NDWAC and other stakeholders, the Agency has evaluated relevant data on health effects, analytical method improvements, treatment technology, occurrence, exposure, and costs. Based on this review, in April 2002 the Agency announced its preliminary decision not to revise 68 existing chemical standards, and to revise the existing Total Coliform Rule (TCR). EPA also noted, however, that for 36 of these chemicals it is still conducting risk assessments, many of which it expects to complete in FY 2004. Depending on the results of these assessments and ongoing evaluation of occurrence, methods (measurement and detection) and treatment data, the Agency may revise other existing NPDWRs stemming from this six-year review.

Implementing Drinking Water Standards

To protect public health from unsafe drinking water, the Agency also supports states, tribes and systems in the implementation of drinking water programs and regulations. The requested increase to the Agency's core drinking water implementation program is critical to maintain effective state and Tribal programs, and to achieve the enhanced level of public health protection established in 1998-or-later drinking water rules. To enable primacy agencies to act as efficient and effective partners, EPA provides guidance, training and technical assistance. EPA also works closely with states and tribes to: ensure proper certification of water system operators; promote consumer awareness of the safety of drinking water supplies; maintain the national drinking water database; and target technical assistance to small and disadvantaged systems to establish and

maintain their technical, financial and managerial capacity to comply with regulations and meet increasing public demand for safe drinking water. For states and tribes that do not have primacy for implementing drinking water regulations, the Agency directly implements the drinking water program.¹

Since the 1996 SDWA Amendments were passed, EPA's support to states and systems in implementing drinking water standards has grown. To ensure that all communities benefit from the public health protection that drinking water regulations provide, smaller public water systems, and systems using ground water, now must meet drinking water standards and requirements previously applicable only to large systems. This growth in the number of systems that must implement drinking water standards increases the need for implementation support. Also, because drinking water regulations now may be adapted to the needs of individual systems to avoid "one size fits all" approaches, monitoring and reporting requirements also have increased, generating new demands on state agencies responsible for implementing drinking water standards. EPA provides implementation support not only for specific rules, but also to manage complex issues related to rule implementation, such as risk monitoring programs for future M/DBP regulations, simultaneous compliance challenges, and waste disposal.

In FY 2004 the Agency will conduct additional training sessions and follow-up technical support for states in the implementation of the 1998 Interim Enhanced Surface Water Treatment Rule (IESWTR) and Stage 1 Disinfectants/Disinfection Byproducts (Stage 1) rules, and the 2002 Long Term Enhanced Surface Water Treatment Rule (LT1). Along with the requested increase in state and Tribal Public Water System Supervision (PWSS) assistance grants, the national drinking water program will: enhance the management capacity of state and Tribal drinking water programs, leading to more effective implementation of high-priority drinking water standards; improve data quality through better management of drinking water data systems; and achieve safer, more efficient operation of drinking water systems. As a result, by the end of FY 2004 the Agency estimates that at least 25 primacy agencies will have updated primacy for the arsenic in drinking water and radionuclides rules, all 53 primacy agencies will have updated primacy for the IESWTR and Stage 1 rules, and at least 11 will have updated primacy for LT1.

Approximately 46,000 small water systems (those serving fewer than 3,300 persons) face greater financial, technical and managerial difficulties in their efforts to provide safe and affordable drinking water, but all systems must be able to meet safe drinking water goals. As a result, small systems will continue to need ongoing training and technical assistance to implement with the 2001 arsenic in drinking water rule, as well as existing and future M/DBP rules. Consistent with the Agency's small systems strategy, the requested increase for FY 2004 will support additional training sessions and follow-up technical support for the arsenic in drinking water and radionuclides rules, including the use of cost-effective treatment technologies, proper waste disposal, and simultaneous compliance issues. EPA also will conduct additional Comprehensive Performance Evaluation (CPE) workshops for state personnel, which states have requested so they can better assist public water systems in the optimization of treatment plant performance to meet microbial standards.

¹ As of 2002, only Wyoming and the District of Columbia do not have primacy.

The Safe Drinking Water Information System (SDWIS) serves as the primary source of national information on compliance with all SDWA requirements, and is a critical database for program management and the development of regulations, trends analyses, and public information. Drinking water systems therefore must supply data on drinking water quality and on compliance activities to states and EPA through SDWIS. In FY 2004 approximately 40 states will be utilizing SDWIS-State, the counterpart to EPA's Federal drinking water information system, SDWIS-Fed. The information in SDWIS-State meets the Agency's minimum data requirements and can easily be reported to EPA, thereby improving data quality and accuracy. To facilitate the use of SDWIS-State, in FY 2004 EPA will work to ensure that all applicable drinking water regulatory requirements are incorporated into this new data system to help states manage their drinking water programs, and will conduct additional workshops for state agency staff working with SDWIS-State. Finally, several states using SDWIS-State will adopt the source water protection module completed in FY 2003 to report source water assessments. The integration of this module with SDWIS will provide EPA and states with a more comprehensive data set to characterize the quality of the nation's drinking water.

EPA also will continue to: 1) train states in data entry, error correction, and fulfilling regulatory reporting requirements; 2) conduct data analyses; 3) provide quality assurance guidance to assist Regions and states to identify missing, incomplete or conflicting data under the jointly developed Data Reliability Action Plan. The Data Reliability Action Plan, which EPA has implemented since FY 2001, already has improved the completeness, accuracy, timeliness and consistency of the data in SDWIS-Fed. Consistent with the Administration's efforts to ensure results-oriented government, in FY 2004 the Agency will implement pilot projects with states designed to streamline data exchange between SDWIS-State and SDWIS-Fed. Finally, data verifications conducted under the Data Reliability Action Plan will play a greater role in the Agency's efforts to ensure the accuracy and completeness of SDWIS data and in FY 2004 the Agency will conduct additional data verifications reported electronically to improve use of results.

To provide safe, reliable and adequate water supplies to consumers, the Nation's 54,000 community water systems must continually upgrade or replace their infrastructure. EPA administers the Drinking Water State Revolving Fund (DWSRF) to help systems make infrastructure improvements to maintain their technical capacity to implement regulations. The DWSRF provides financial assistance to public water systems through revolving loan funds for water systems to upgrade their drinking water infrastructure. In addition, the DWSRF provides additional financial support to small and disadvantaged communities through low or zero-interest loans. In addition, every state that administers DWSRF funds must provide a minimum of 15 percent of available funds for loans to small communities, and has the option of providing up to 30 percent of available funds to state-defined disadvantaged communities. By the end of FY 2004, states and public water systems will have used DWSRF funds to establish a total of 3,600 assistance agreements, and will have completed infrastructure upgrades and replacements in 1,900 drinking water systems.

In Puerto Rico, inadequate drinking water infrastructure has created a significant daily health risk to consumers. Puerto Rico's compliance problems with health-based standards are a major challenge in the national effort to ensure that 95 percent of the population served by community water systems receives drinking water that meets all health-based standards. Despite significant EPA compliance assistance efforts over the past several years, Metropolitan, Puerto

Rico's largest public water system serving 1.4 million consumers, has been persistently in noncompliance with Coliform bacteria and trihalomethane (a disinfection byproduct) standards, and turbidity requirements. The challenge of providing adequate, safe, and affordable drinking water in Puerto Rico will be more difficult to overcome as compliance dates for more protective microbial, disinfectant and disinfection byproducts standards arrive.

Metropolitano is unable to afford critical drinking water infrastructure improvements without Federal support: Nearly 60 percent of the population lives in poverty, and compared to the national average for the 50 states, Puerto Ricans spend twice as much of their median income on drinking water. Under these economic conditions, Puerto Rico cannot easily finance the infrastructure upgrades and replacements needed to reduce public health risks without increases in support. According to the Agency's 2001 Drinking Water Needs Survey, Puerto Rico's current infrastructure needs total \$139 million, including \$70 million for treatment technology. As a first step toward improved public health protection in Puerto Rico, in FY 2004 the Agency requests \$8 million to design the necessary infrastructure improvements to Metropolitano. Once these infrastructure improvements eventually are completed, the Agency estimates that, over the operational life of the Metropolitano system, 200 to 300 excess cases of cancer will be avoided, and risks of gastroenteritis and other waterborne diseases will be greatly reduced. This will allow the Agency to meet its objective of providing drinking water that meets all 1998 or later health-based standards, within five years of the effective date of each standard, to 95 percent of the population served by community water systems.

Since FY 1997 EPA, 13 states and hundreds of drinking water systems have successfully piloted the voluntary Area-Wide Optimization Program (AWOP). Under AWOP, systems conduct comprehensive performance evaluations (CPEs) to assess the performance of their filtration technology. By optimizing their use of filtration technology, systems can go beyond compliance to significantly reduce the human health risks associated with turbidity (clouds of tiny particles) in finished drinking water. These particles may contain harmful microorganisms, pesticides or herbicides, all of which can cause nausea, cramping, diarrhea, and associated headaches, and potentially more severe effects in the elderly, children and immune-compromised consumers. EPA currently provides optimization support for 500 (6 percent) of small public water systems that use surface water sources. The majority of these systems already are able to achieve turbidity levels that consistently meet the turbidity standard in the January 2002 Long-Term 1 Enhanced Surface Water Treatment Rule (LT1), a substantial performance improvement. Further, many small systems with at least 5 years experience in AWOP are now are capable of exceeding the LT1 standard. To provide optimization support to 250 more systems, EPA requests additional FY 2004 resources so that more small communities can benefit from this highly successful program. Broader application of AWOP or their components will enhance the ability of small systems to meet the existing and future microbial rule requirements, and will be critical to meeting one of the Agency's long term Government Performance Results Act objective of increasing the percentage of the population served by community water systems meeting standards issued in 1998 or later. A critical component of AWOP's success is the work of state engineers to determine whether a drinking water system is operating properly. The proposed increase in FY 2004 resources would support additional CPE workshops for these engineers, which states have requested so they can better assist drinking water systems in optimization efforts.

Safe Consumption of Fish and Shellfish and Recreational Waters

Reducing exposure to contaminants in fish and shellfish and through contact in primary and secondary recreational waters is a top priority for the National Water Program. In 2004, the Agency will continue to work with its state partners to ensure that they adopt and maintain scientifically based criteria and consistent assessment and notification programs to protect recreation, fish consumption, drinking water, and aquatic life uses.

About 75 percent of the Nation's population lives, works, or plays on or near our coastal waters. Studies indicate that susceptible populations (e.g., children) are the most likely to develop illnesses or infections after swimming in polluted water. To protect human health, the Agency strives to establish improved safety guidelines and pollution indicators so that local authorities can monitor their recreational waters in a cost-effective way, close them to public use when necessary, and effectively communicate risks to the public. For beaches, our three-part goal is to strengthen beach standards and testing, improve the scientific basis for beach assessment, including accurately determining causes of beach closures, and develop methods to inform the public about beach conditions. The Agency will achieve these goals for coastal and Great Lakes beaches through implementation of the Beaches Environmental Assessment and Coastal Health Act of 2000 (BEACH). Implementing the BEACH Act includes awarding grants to state, local, and Tribal governments to implement programs for stratified monitoring and public notification of beach closures when bacterial contamination poses a risk to swimmers; the Agency has published performance criteria for use in state and Tribal beach programs as a condition for receiving these grants. The Agency will provide technical assistance and training to tribes and states to help them meet the required performance criteria. The Agency will also continue a process to work with other Federal agencies to assist them in developing a beach program consistent with the BEACH Act. Also, the BEACH Act requires that protective water quality standards for bacteria must be in place for coastal and Great Lakes waters by 2004; the Agency will continue the process of publishing water quality standards for coastal states and tribes that have not yet adopted standards based on EPA's 1986 criteria for pathogens.

Monitoring used by states in their fish and shellfish advisory programs vary widely. In support of this effort, the Agency will continue a nationwide survey of toxic residues in fish and complete epidemiological studies in the Great Lakes, in cooperation with the Agency for Toxic Substances and Disease Registry (ATSDR), on the health effects of exposure to selected bioaccumulative toxics. The nationwide survey of toxic residues in fish is a top priority project needed to identify the most prevalent contaminants in fish throughout the United States. The Agency will support monitoring/modeling pilot programs that improve states' ability to predict and address contamination events at beaches. The Agency will support epidemiological studies needed to develop and apply better indicators of pathogens in recreational waters. The Agency will also evaluate the health risks in seafood harvested from the Gulf of Mexico and continue to work on alternative risk-based indicators and methods for skin, respiratory, eye, ear, throat, and gastrointestinal diseases most commonly resulting from exposure to contaminants at beaches. EPA will also evaluate up to three human health criteria for bioaccumulative pollutants. In addition, the Agency will continue to work with stakeholders, encouraging full involvement at all levels of government, to expand the total proportion of surface waters assessed for possible fish and beach contamination, and to implement fish consumption and beach advisory programs that are consistent with published national guidance.

To assure that the public has timely information on the quality of local beaches and fishing areas, the Agency will continue to expand an Internet-based Federal information source called Beach Watch on beach advisories and closings across the United States and the National Listing of Fish and Wildlife Advisories on fish advisories. Working with states, tribes, and local governments, EPA will continue to expand the Beach Watch database to include information on high-use fresh water beaches, including the location of nearby Combined Sewer Overflow (CSO) outfalls, and fishing areas. We will also add digitized maps of coastal and inland high-use beaches to the Internet database. The Agency will also work with state and local governments to develop and operate a database of pollution occurrences at beaches to conform to the requirements of the BEACH Act of 2000, and continue the process of developing a list of discreet coastal recreation waters adjacent to beaches or similar points of access. The Agency will develop data transfer protocols to obtain this information from state and local governments. Also working with states and tribes, EPA will continue to expand the National Listing of Fish and Wildlife Advisories to include the fish tissue information that states and tribes used to issue the advisories.

Research

Considerable progress has been made over the past 20 years in providing a sound scientific foundation for Federal regulations to protect the safety of the nation's water supply. In FY 2004, drinking water research will remain a high priority for the Agency in recognition of the need to further strengthen our ability to characterize and manage risks to human health posed by exposure to waterborne pathogens and chemicals. There is a critical need for new data, improved tools and cost-effective technologies for addressing both known and emerging threats to the general population as well as to sensitive subpopulations. A particularly important area of research is the development of more cost-effective treatment technologies for the removal of arsenic from small community drinking water systems. The research provisions of the 1996 Safe Drinking Water Act (SDWA) amendments highlight the importance of this research for providing a sound scientific basis for regulatory decision-making.

To address these needs, EPA has established an integrated, multi-disciplinary research program in the areas of exposure, health effects, risk assessment, and risk management. This program directly supports SDWA priorities, including: 1) research on sensitive subpopulations, adverse reproductive outcomes and other potential health effects of drinking water contaminants; 2) studies on disinfection by-products (DBPs), arsenic, complex mixtures, and the occurrence of waterborne disease in the United States; and 3) development of methods to improve water treatment and maintain water quality in the distribution system. FY 2004 research will focus on: 1) chemicals and microbes on the Contaminant Candidate List (CCL), a list of over 60 unregulated chemicals and microbes, from which contaminants are selected for future regulatory determinations; and 2) the development of more cost-effective treatment technologies to help small systems meet the new arsenic standard.

EPA has developed research plans for Microbial Pathogens and DBPs in Drinking Water, Arsenic in Drinking Water, and has developed a draft research plan for drinking water contaminants on the Contaminant Candidate List (CCL). These plans are subject to rigorous peer review and address those problems deemed most pressing in the area of drinking water quality. In addition, the draft Drinking Water Research Multi-Year Plan (MYP) provides a framework for integrating research throughout EPA's Office of Research and Development in

the context of annual performance goals and measures under the Government Performance and Results Act (GPRA). The MYP articulates the long-term goals, purpose, and priorities of the program, and includes a scheduled timeline of research activities and expected products of the research program. To ensure quality, all scientific and technical work products undergo either internal or external peer review, with major or significant products requiring external peer review.

EPA's drinking water health effects research program in FY 2004 will continue to focus on laboratory, clinical, and field studies of contaminants on the CCL, selected high priority DBPs, and arsenic. Studies of chemical contaminants on the CCL will seek to provide either screening level or more detailed information to support CCL regulatory determinations. Laboratory research on selected DBPs will emphasize potential adverse reproductive outcomes. Studies will also examine potential carcinogenicity of DBPs, as well as other toxic endpoints (e.g., neurotoxicity, immunotoxicity) of possible concern. EPA will continue to evaluate the influence of source water quality, treatment technology, and demographic characteristics on waterborne disease in selected communities in the United States. Research will also include studies to establish dose-response relationships for priority contaminants, characterize pathogen virulence and the range of outcomes related to exposure and infection, evaluate the impact of host factors (e.g., immune status) on infection and disease, and identify the causative agents responsible for waterborne diseases.

In FY 2004, exposure research will continue to focus on the development of improved analytical detection methods for measuring the occurrence of chemicals and microbes on the CCL. Field-testing of new methods will be conducted to gain performance information and preliminary occurrence data. To evaluate the effectiveness of regulations and policies regarding human exposure, improved methods to detect and measure human exposure to microbes will be developed and applied in human population exposure studies. Results of these studies will help:

- reduce uncertainty regarding multi-route and multi-source exposure;
- determine whether microbes are viable and infective;
- identify pathogens of public health concern; and
- characterize exposure conditions that are associated with adverse health effects, particularly for highly sensitive sub-populations (children, the elderly, and the immunocompromised).

In FY 2004, exposure research will also focus on identifying new DBPs resulting from various disinfection processes and develop improved analytical methods to detect and measure both DBPs and CCL-listed chemicals. Finally, to help in designing and interpreting animal toxicity and human epidemiology studies, arsenic exposure research will improve methods for measuring different forms of arsenic in foods and will establish a preliminary database of levels of arsenic species in target foods.

Risk assessment research utilizes exposure and health effects information to characterize the magnitude and severity of risks associated with exposures to drinking water contaminants. In

FY 2004, this research will continue to improve dose-response modeling for cancer and non-cancer risk associated with exposures to individual contaminants on the CCL and DBPs (both single chemicals and complex mixtures). In addition, EPA will quantitatively assess the risk from pathogenic microorganisms that are transmitted through drinking water using health effects and exposure information to address factors such as occurrence, infectious dose, host immunity, and morbidity and mortality rates. Particular emphasis will be placed on the development of disease transmission models for human disease occurrence following exposure to pathogens in drinking water in both endemic and epidemic situations. These models will provide a quantitative description of an infectious disease process and will contribute to the analysis of the human risk of infection and illness due to waterborne pathogens in drinking water.

Creating multiple barriers that prevent human exposure to contaminated waters is a major consideration in developing a successful drinking water management program. Protective barriers include: source water protection, effective water treatment and safe drinking water distribution. EPA research addresses how these barriers can be applied to the most significant chemical and pathogen contamination problems described above. Source water protection research addresses the identification and control of significant sources of surface and ground water contamination, as well as monitoring source water contaminants. Treatment research addresses conventional and improved cost-effective means to produce safe drinking water. This includes adapting conventional systems to new contaminants, developing innovative technologies and optimizing treatment systems to account for such complex issues as minimization of the risks from DBPs while controlling microbial pathogens. Distribution system research will target improving the control of distribution system conditions to minimize infiltration, and formation and release of pathogens and undesirable chemicals into drinking water. In addition to addressing regulated contaminants, drinking water management research plays an important role in assessing the feasibility of controlling new contaminants under the CCL program.

In FY 2004, drinking water management researchers will study the characterization and fate of DBPs in distribution systems. Source water protection research will continue its focus on wet weather flow and non-point source impacts on water quality, real-time monitoring source water chemical and microbial contamination and the development of techniques for improved source water quality and source load allocation. Treatment research will continue to address contaminants on the CCL to support decisions on whether new contaminants should be regulated and, if so, to identify cost-effective control techniques. Continuing efforts will also address the special needs of small systems for the removal of arsenic and the control of pathogens. The goal of these studies is to develop and demonstrate small-scale, cost-effective treatment technologies that are easily installed and automated.

FY 2004 Change from FY 2003 Request

EPM

- (+\$2,606,800, +1 FTE) This increase funds the development of a system to analyze vulnerability assessment summary data from the 9,000 community water systems required to conduct such assessments and to support the ongoing operation of the Information Sharing and Analysis Center (ISAC).

- (+\$5,403,700, +6 FTE) The requested increase to the Agency's core drinking water implementation program will help maintain effective state and Tribal programs, and achieve the enhanced level of public health protection established in 1998-or-later drinking water rules. In FY 2004 the Agency will conduct additional training sessions and follow-up technical support for states and public water systems in the implementation of the 1998 Interim Enhanced Surface Water Treatment Rule (IESWTR) and Stage 1 Disinfectants/Disinfection Byproducts (Stage 1) rules, the 2002 Long Term Enhanced Surface Water Treatment Rule (LT1), and the radionuclides rule. EPA will also conduct additional Comprehensive Performance Evaluation (CPE) workshops, which states have requested so they can better assist public water systems in the optimization of treatment plant performance to meet microbial standards. This increase also reflects efficiencies achieved in Information Technology projects and systems.
- (+\$1,240,800) This increase supports additional small system assessment and optimization of filtration performance to significantly reduce public health risks from microbial contaminants.
- (+\$906,600, +0.2 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*
- (+\$445,900, +4.1 FTE) This change represents the distribution of resources for Regional Information Management across all Regions.
- There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

S&T

- (+\$7,835,800, +15 FTE) This increase supports a wide range of activities, including technical assistance, training, scientific/technical analyses that address the requirements of the Public Health Security and Bioterrorism Emergency and Response Act of 2002.

STAG

- (+\$11,999,800) This increase to PWSS grants enhances state and Tribal capacity to assist drinking water systems in the implementation of high-priority drinking water regulations, and to meet public health goals.

- (+\$8,000,000) As a first step toward improved public health protection in Puerto Rico, the Agency requests grant funds to design the necessary drinking water infrastructure improvements to Metropolitano, Puerto Rico.

Research

S&T

- (+\$10,341,300 and +10.7 FTE) This represents research that will be initiated in FY 2004 focusing on water security. Work will include research, development, testing, and communication/implementation of enhanced methods for detection, treatment, and containment of biological and chemical warfare agents and bulk industrial chemicals intentionally introduced into drinking water systems. Redirection of workforce from within Drinking Water research will provide support for the water security research requirement under Homeland Security to develop rapid detection methods. These methods will help assess the presence and state of Bacillus spores, as well as field test and validate sensor technologies and/or biomonitoring systems that hold promise as viable early-warning systems for treatment plants, or as field test kits for emergency responders.
- (+\$426,900) This increase represents increased support to the Agency's Homeland Security Strategic Plan in the area of rapid risk assessment research related to drinking water. In FY 2004, emphasis will be placed on: methods and means for utility personnel to communicate risk to local communities with respect to threats and safeguards; gaining a better understanding of contaminant exposure routes and the health effects from contaminants in water supplies and systems; and the development of a methodology or procedure for relating contamination levels and residual risks to individuals exposed to decontaminated water supplies and systems.
- (+\$302,400, and +3.0 FTE) This increase reflects the Agency's effort to enhance its scientific workforce by attracting quality postdoctoral scientists and engineers into its research program.
- (-\$390,000) This reduction represents a shift from lower priority drinking water research on DBPs to address critical research to support the Food Quality Protection Act (FQPA) (Goal 3) focusing on longitudinal activity and dietary consumption data on subpopulations (e.g., children, elderly). This reduction will result in the elimination of research to address the attenuation of viruses in watersheds and the management of N-nitrosodimethylamine (NDMA), a by-product of chloramination in the treatment of drinking water.
- (-\$401,620, and -4.3 FTE) FTE are being redirected in support of the Agency's enhancement to the IRIS program. This reduction will result in the elimination of research to address the attenuation of viruses in watersheds and the management of N-nitrosodimethylamine (NDMA), a by-product of chloramination in the treatment of drinking water.

- (-\$332,640, and -3.3 FTE) This redirection of workforce from lower priority drinking water research on pathogenic fungi and protozoa will support the Agency's Homeland Security efforts in the area of water security. This reduction will delay research on potential pathogens for future CCL-listing.
- (-\$158,780, and -1.7 FTE) This reduction represents a shift from drinking water research on biofilms in drinking water distribution systems to address uncertainties associated with determining and reducing the risks to human health of the production and application of treated wastewater sludge (biosolids) to land for use as fertilizers (objective 2.2).
- There are additional increases for payroll and cost of living for new and existing FTE.

GOAL: CLEAN AND SAFE WATER

OBJECTIVE: SAFE DRINKING WATER, FISH AND RECREATIONAL WATERS

Annual Performance Goals and Measures

Safe Drinking Water

- In 2004 85 percent of the population served by community water systems will receive drinking water meeting health-based standards promulgated in or after 1998.
- In 2004 92% of the population served by community water systems will receive drinking water meeting all health-based standards in effect as of 1994, up from 83% in 1994.
- In 2003 85 percent of the population served by community water systems will receive drinking water meeting health-based standards promulgated in or after 1998.
- In 2003 92% of the population served by community water systems will receive drinking water meeting all health-based standards in effect as of 1994, up from 83% in 1994.
- In 2002 91% of the population served by community water systems received drinking water meeting all health-based standards in effect as of 1994.
- In 2002 Final FY 02 numbers will not be available until mid-January. SDWIS reports quarter behind.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percent of population served by community drinking water systems with no violations during the year of any Federally enforceable health-based standards that were in place by 1994.	91	92	92	% Population
Population served by community water systems providing drinking water meeting health-based standards promulgated in or after 1998.	N/A	85	85	% Population

Baseline: In 1998, 85% of the population that was served by community water systems and 96% of the population served by non-community, non-transient drinking water systems received drinking water for which no violations of Federally enforceable health standards had occurred during the year.

Drinking Water Systems Operations

- In 2004 Enhance homeland security by securing the nation's critical drinking water infrastructure.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percent of population and number of CWSs-serving more than 50,000 but less than 100,000 people have certified the			100/~460	% pop/# CWSs

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
completion of their vulnerability assessment and submitted a copy to EPA.				
Percent of population and number of CWSs-serving more than 50,000 but less than 100,000 people have certified the completion of the preparation or revision of their emergency response plan.			100/~460	% pop/# CWSs
Percent of population and number of CWSs-serving more than 3,300 but less than 50,000 people have certified the completion of their vulnerability assessment and submitted a copy to EPA.			100/~7,475	% pop/# CWSs

Baseline: These measures covering medium-sized community water systems will be reported for the first time in FY 2004, which will establish the baselines.

River/Lake Assessments for Fish Consumption

- In 2004 Reduce consumption of contaminated fish by increasing the information available to States, Tribes, local governments, citizens, and decision-makers.
- In 2003 Reduce consumption of contaminated fish by increasing the information available to States, Tribes, local governments, citizens, and decision-makers.
- In 2002 14% of the nation's river miles and 28% of nation's lake acres have been assessed to determine if they contain fish and shellfish that should not be eaten or should be eaten in only limited quantities.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Lake acres assessed for the need for fish advisories and compilation of state-issued fish consumption advisory methodologies. (cumulative)	28	29	32	% lake acres
River miles assessed for the need for fish consumption advisories & compilation of state-issued fish consumption advisory methodologies. (cumulative)	14 %	15%	16%	River miles

Baseline: In 1999, 7% of the Nation's rivers and 15% of the Nation's lakes were assessed to determine if they contained fish that should not be eaten or should be eaten in only limited quantities. In September 1999, 25 states/tribes are monitoring and conducting assessments based on the national guidance to establish nationally consistent fish advisories. In the 2000 Report to Congress on the National Water Quality Inventory, 69% of assessed river and stream miles; 63% of assessed lake, reservoir, and pond acres; and 53% of assessed estuary square miles supported their designated use for fish consumption. For shell fish consumption, 77% of assessed estuary square miles met this designated use.

Increase Information on Beaches

- In 2004 Reduce human exposure to contaminated recreation waters by increasing the information available to the public and decision-makers.
- In 2003 Reduce human exposure to contaminated recreation waters by increasing the information available to the public and decision-makers.
- In 2002 Reduced exposure to contaminated recreation waters by providing monitoring and closure data on 2,455 beaches to the public and decision-makers.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Beaches for which monitoring and closure data is available to the public at http://www.epa.gov/waterscience/beaches/ . (cumulative)	2,445	2,550	2,650	Beaches

Baseline: By the end of FY1999, 33 states had responded to EPA's first annual survey on state and local beach monitoring and closure practices and EPA made available to the public via the Internet information on conditions at 1,403 specific beaches. In the 2000 Report to Congress on the National Water Quality Inventory, 72% of assessed river and stream miles; 77% of assessed lake, reservoir, and pond acres; and 85% of assessed estuary square miles met their designated uses for recreation (primary contact).

Source Water Protection

- In 2004 Advance States' efforts with community water systems to protect their surface and ground water resource^s that are sources of drinking water supplies.
- In 2003 39,000 community water systems (representing 75% of the nation's service population) will have completed source water assessments and 2,600 of these (representing 10% of the nation's service population) will be implementing source water protection programs.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of community water systems and percent of population served by those CWSs that are implementing source water protection programs.		10%/2,600	25% / 7,500	% pop/systems

Baseline: EPA has defined implementation as undertaking 4 or more of 5 stages of source water protection. About 268 million people are estimated to be served by CWSs in 2002.

Research

Drinking Water Research

- In 2004 Provide final reports on the performance of arsenic treatment technologies and/or engineering approaches to the Office of Water and water supply utilities to aid in the implementation of the arsenic rule and the protection of human health.
- In 2002 EPA produced scientific reports to support the development of the next Contaminant Candidate List of chemicals and pathogens for potential regulatory action and research. These reports will help ensure that future regulations address the contaminants of greatest public health concern.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Provide method(s) for CCL related pathogens in drinking water for use in the Unregulated Contaminant Monitoring Rule.	1			journal article
Final reports of full-scale demonstrations of arsenic treatment technologies.			09/30/04	reports

Baseline: On October 31, 2001 EPA announced that the final standard for arsenic in drinking water of ten parts per billion (10 ppb) would become effective on February 22, 2002. Nearly 97 percent of the water systems affected by this rule are small systems that serve less than 10,000 people each. These small systems have limited resources and need more cost-effective technologies to meet the new standard. A total of \$20 million has been allocated or planned in FY02 and FY03 for research and development of more cost-effective technologies, as well as technical assistance and training to operators of small systems to reduce their compliance costs. In FY 2004 EPA will provide final reports of full-scale demonstrations of arsenic treatment technologies to aid in the implementation of the arsenic rule and the protection of human health.

Homeland Security - Water Security Research

- In 2004 Verify two point-of-use drinking water technologies that treat intentionally introduced contaminants in drinking water supplies for application by commercial and residential users, water supply utilities, and public officials.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Verify two treatment technologies for application in buildings by commercial and residential users, utilities, and public officials to treat contaminants in drinking water supplies.			2	verifications

Baseline: These technology verifications are being conducted in support of EPA's Draft Strategic Plan for Homeland Security and are focused on the water security tactic in the strategy. Evaluations of point-of-use drinking water treatment technologies have been ongoing for years and technologies are commercially available to remove disagreeable tastes and odors, and capture or neutralize contaminants. These point-of-use treatment technologies are now being considered as an additional means of treating water that may have been exposed to biological or chemical contaminants through terrorist attacks. What makes this undertaking unique is that the Environmental Technology Verification (ETV) program will formally verify such technologies using a standard protocol developed by a group of stakeholders, who are considered experts on such verifications. This additional line of defense can help reassure home and building owners and users, water supply utilities, and public officials that the drinking water supply in a residential or commercial building can be treated one more times once it enters the water distribution system of a building.

Program Assessment Rating Tool

Drinking Water State Revolving Fund (SRF)

As part of the Administration's overall evaluation of effectiveness of Government programs, the Drinking Water State Revolving Fund (SRF) program was evaluated with the following specific findings:

1. The program purpose is clear and it is designed to have a significant impact on a well identified need, although, there are other Federal, state and private resources available to address the problem.
2. Evaluation of public health impacts from infrastructure improvements is difficult, in part because states provide only aggregate data.

In response to these findings, the Administration will:

1. Continue capitalization of the Drinking Water SRF at the 2003 President's Budget level because, although target revolving levels for the fund have been reached, continued Federal support will close the recently identified gap in funding capital infrastructure needs for the next twenty years. The extended commitment proposed in the President's 2004 Budget is expected to provide \$45 billion for loans and assistance through the State Drinking Water SRFs, which will support over 21,000 new projects.
2. Develop new performance measures to be included in EPA's 2004 GPRA plan to better demonstrate the impact of the program.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Population served by community water systems with no violations during the year of any Federally-enforceable health-based standards that were in place by 1994 and Population served by community water systems that receive drinking water meeting health-based standards promulgated in 1998.

Performance Database: Safe Drinking Water Information System- Federal Version (SDWIS or SDWIS-FED)

Data Source: Agencies with Primacy for the Public Water Supply Supervision (PWSS) Program including States, EPA Regional Offices with Direct Implementation (DI) responsibility for states and Indian tribes, and the Navajo Nation Indian Tribe (the Navajo is expected to begin reporting directly to EPA in FY 2003). Primacy Agencies (States) collect the data from the regulated water systems, determine compliance, and report a subset of the data to EPA (primarily inventory and violations). EPA is the secondary user of this data. Water quality data from other collectors of data (third parties) related to drinking water, such as source water or wastewater discharge, is not used in PWSS program measures.

Methods, Assumptions and Suitability: The analytical methods that drinking water systems use to collect violations data are specified in the technical guidance associated with each drinking water regulation. Laboratories must be certified by the Primacy Agency (State) to analyze drinking water samples and are subject to periodic performance audits by the State. The performance measures are based on data reported by individual systems to states, which supply the information to EPA through SDWIS. EPA then verifies and validates the data for 10 to 12 states per year, according to the PWSS Data Verification Protocol (Version 9.0, 1999).² To measure program performance, EPA aggregates the SDWIS data into a national statistic on overall compliance with health-based drinking water standards. This statistic compares the total population served by community water systems meeting all health-based standards to the total population served by all public water systems (which includes non-community water systems).

EPA's Office of Ground Water and Drinking Water (OGWDW) is currently conducting an assessment of information needs to determine what additional data would be valuable to manage the national drinking water program. For example, parametric data (data on the quality of water supplies) in combination with violations data would improve the current measures, but also would increase primacy states' reporting requirements. As a result, the value of collecting new parametric and monitoring data must be weighed against the additional reporting burden on primacy states. OGWDW is conducting a data reliability analysis to determine the impact of data quality on the annual performance measures. At this time, considering the limitations of SDWIS and comprehensive activities to improve the quality and completeness of the SDWIS data, OGWDW believes that SDWIS data are suitable for year-to-year comparisons of program performance using the selected performance measures.

QA/QC Procedures: SDWIS-FED has numerous edit checks built into the software to reject erroneous data. There are quality assurance manuals for states and Regions to follow to ensure data quality. The manuals provide standard operating procedures for conducting routine assessments of the quality of the data, communication and follow-up actions to be conducted with the state to achieve timely corrective action(s). EPA offers training to states on reporting requirements, data entry, data retrieval, and error correction. User and system documentation is produced with each software release and is maintained on EPA's web site. SDWIS-FED documentation includes data entry instructions, data element dictionary application, Entity Relationship Diagrams, a user's manual, and regulation-specific reporting requirements documents. System, user, and reporting requirements documents can be found online at www.epa.gov/safewater. System and user documents are accessed via the database link and specific rule reporting requirements documents are accessed via the regulations, guidance, and policy documents link. In addition, EPA provides specific error correction and reconciliation support through a troubleshooter's guide, a system-generated summary with detailed reports documenting the results of each data submission, and an error code database for states to use when they have questions on how to enter or correct data. A user support hotline is available 5 days a week to answer questions and provide technical assistance. At least one EPA staff person in each EPA regional office serves as the SDWIS-FED Regional Data Management Coordinator to provide technical assistance and training to the states on all aspects of information

² Enyeart, R. (revised June 1999). EPA protocol for participation in a PWSS program data verification (Version 9.0). Washington, DC: U.S. Environmental Protection Agency. Internal document in perpetual draft referred to as the PWSS Data Verification Protocol.

management and required reporting to EPA. State primacy agencies' information systems are audited on an average schedule of once every 3 years.

Data Quality Review: Management System Reviews (MSRs) of the Office of Ground Water and Drinking Water's Quality Management Plan (QMP), which includes quality assurance/quality control (QA/QC) for SDWIS, are carried out every three years. The Quality Assurance Division coordinates this effort. EPA last completed an MSR in July 1999 and will repeat the review in FY 2002. The 1999 MSR findings related to SDWIS/FED were all positive. EPA also completed a data reliability assessment (QA audit) of the 1996–1998 SDWIS-FED data in FY 2000. The Data Reliability Action Plan (DRAP, described below), completed in FY 2000, was developed to address deficiencies identified in the 1999 data reliability assessment.³ The action plan was implemented in 2001 and continues to be implemented and revised as appropriate. The most recent revision was made in October 2002.

EPA, states, and stakeholders have expanded on the DRAP through the development of a more comprehensive OGWDW Information Strategy that tackles additional data quality problems.⁴ Components of the OGWDW Information Strategy include (1) simplifying and/or standardizing regulatory reporting requirements where possible; (2) reevaluating EPA's philosophy of system edits; and (3) continuing to improve tools and processes for creating and transferring data to EPA, such as incorporating newer technologies, and adapting the Agency's Enterprise Architecture Plan, to integrate data and the flow of data from reporting entities to EPA via a central data exchange (CDX) environment. The Information Strategy could be considered Phase II of the DRAP, and it sets the direction for a comprehensive modernization of SDWIS over the next 3 to 5 years.

Finally, individual data quality reviews are conducted by EPA and its contracted auditors on state primacy agencies' information systems. These audits are conducted between every 2 to 4 years depending on the resources available and programmatic need in the region. Each state's overall information system is evaluated with special emphasis on its compliance determinations (interpretation and application of regulatory requirements, which includes designation of violations) and data flow (primacy agency's compliance with record-keeping and reporting requirements to EPA). Continuous data quality reviews include data quality estimates based on the results of data verifications, timeliness and completeness of violation reporting, completeness of various required inventory data elements, and completeness of reporting for specific rules.

Data Limitations: Currently SDWIS-FED is an Aexceptions database that focuses exclusively on public water systems' noncompliance with drinking water regulations (health-based and program). Primacy states implement drinking water regulations with the support of the Public Water System Supervision (PWSS) grant program and determine whether public water systems have violated: maximum contaminant levels (MCL); treatment technique requirements; consumer notification requirements; or monitoring-and-reporting requirements. Primacy agencies report those violations through SDWIS.

³ Haertel, F. (October 2002). Data Reliability Action Plan. U.S. Environmental Protection Agency. Office of Groundwater and Drinking Water internal work plan document.

⁴ U.S. EPA. Office of Groundwater and Drinking Water Information Strategy (under revision). See Options for OGWDW Information Strategy (Working Draft) EPA 816-O-01-001 February 2001 at the following web site <http://epa.gov/safewater> at the information strategy link.

Recent state data verification and other quality assurance analyses indicate that the most significant data quality problem is under-reporting to EPA of monitoring and health-based standards violations and inventory characteristics, such as water sources and/or latitude/longitude for all sources. The most significant under-reporting occurs in monitoring violations. Even though those are not covered in the health based violation category, which is covered by the performance measure, failures to monitor could mask treatment technique and MCL violations. Such under-reporting of violations limits EPA's ability to: 1) accurately quantify the number of sources and treatments applied, 2) undertake geo-spatial analysis, and 3) integrate and share data with other data systems. The under-reporting limits EPA's ability to precisely quantify the population served by systems, which are meeting the health-based standards. Currently, the program office is assessing the percentage of unreported health-based violations and calculating adjustments to the performance data that might be required for future reports. The population data has been determined to be of high quality.

The DRAP and the Information Strategy Plan address many of the underlying factors contributing to the data limitations. Additional options under consideration include:

1. increasing the focus on state compliance determinations and reporting of complete, accurate and timely violations data;
2. developing incentives to improve the accuracy, completeness, and timeliness of state reporting;
3. Continuing analyses of data quality; and
4. Requiring the report of parametric data (analytical results used to evaluate compliance with monitoring regulations and compliance with treatment techniques and maximum contaminant levels), monitoring schedules, and waiver information assigned to water systems by the state primacy agency. This information would allow compliance determinations to be made by EPA for quality assurance or state oversight purposes. Potential violation under reporting could be identified through the availability of this information and appropriate corrective actions implemented.

Error Estimate: Analyses are under way to determine the impact of data quality on the performance measures and are scheduled for completion by the end of FY 2002. The analysis will include data from an additional round of audits to provide a more accurate error estimate compared to the results of earlier baseline audits.

New/Improved Data or Systems: With a newly developed information strategy developed by EPA in partnership with the states and major stakeholders, several improvements to SDWIS are underway. The DRAP is an integral part of the Information Strategy Plan, currently under development.

First, EPA will continue to work with states to implement the Data Reliability Action Plan (previously referenced), a multi-step approach to improve the quality and reliability of data in SDWIS-FED. The DRAP already has improved the completeness, accuracy, timeliness, and

consistency of the data in SDWIS-FED through: 1) training courses for SDWIS-FED data entry, error correction, and regulation specific compliance determination and reporting requirements, 2) specific DRAP analyses, follow-up activities and state-specific technical assistance, 3) increased number of data verifications conducted each year, and 4) creation of various quality assurance reports to assist regions and states in the identification and reconciliation of missing, incomplete, or conflicting data.

Second, more states will use SDWIS-STATE, a software information system jointly designed by states and EPA, to support states as they implement the drinking water program. SDWIS-STATE is the counterpart to EPA's Federal drinking water information system, SDWIS-FED, and employs many of the same edit criteria and enforces many of the mandatory data elements.⁵ If the SDWIS-STATE system is fully utilized by a state, the information it holds would meet EPA's minimum data requirements. SDWIS-STATE contains a utility that creates the necessary output to report to SDWIS-FED, which aids in easing the states' reporting burden to EPA, and in the process minimizes data conversion errors and improves data quality and accuracy. In addition, a Web-enabled version of SDWIS-STATE and a data migration application that can be used by all states to process data for upload to SDWIS-FED are being developed. EPA estimates that 40 states will be using SDWIS-STATE for data collections by FY 2004.

Third, EPA is modifying SDWIS-FED to (1) streamline its table structure, which simplifies updates and retrievals, (2) minimize data entry options that result in complex software and prevent meaningful edit criteria, and (3) enforce compliance with permitted values and Agency data standards through software edits, all of which will improve the accuracy of the data.

Fourth, EPA has developed a data warehouse system that is optimized for analysis, data retrieval, and data integration from other data sources like information from data verifications, sample data, source water quality data (e.g., United States Geological Survey [USGS] data), and indicators from inspections conducted at the water systems. It will improve the program's ability to use information to make decisions and effectively manage the program.

Finally, EPA, in partnership with the states, is developing information modules on other drinking water programs: the Source Water Protection Program, the Underground Injection Control Program, and the Drinking Water State Revolving Fund. These modules will be integrated with SDWIS to provide a more comprehensive data set with which to assess the nation's drinking water supplies, a key component of the goal.

References:

Plans

- SDWIS-FED does not have a Quality Assurance Project Plan - it is a legacy system which

⁵ SDWIS/STATE (Version 8.1) is an optional Oracle data base application available for use by states and EPA regions to support implementation of their drinking water programs. See U.S. Environmental Protection Agency. (July 2002). Data & Databases. Drinking Water Data & Databases. Information available on the Internet: <http://www.epa.gov/safewater/databases.html>

has “evolved” since the early 80s prior to the requirement for a Plan. The SDWIS-FED equivalent is the Data Reliability Action Plan.

- Information Strategy Plan - SDWIS-FED
- Quality Management Plan
- Enterprise Architecture Plan

Reports

- 1999 SDWIS/FED Data Reliability Report
- 2003 SDWIS/FED Data Reliability Report - contains the Data Reliability Action Plan and status report
- PWSS Management Report (quarterly)
- 1999 Management Plan Review Report

Guidance Manuals, and Tools

- PWSS SDWIS/FED Quality Assurance Manual
- Various SDWIS-FED User and System Guidance Manuals (includes data entry instructions, data On-line Data Element Dictionary-a database application, Error Code Data Base (ECDB) - a database application, users guide, release notes, etc. All are located on the OGWDW web site listed below)
- Regulation Specific Reporting Requirements Guidance

Web site addresses

- OGWDW Internet Site www.epa.gov/safewater/data.html contains access to the information systems and various guidance, manuals, tools, and reports.
- Sites of particular interest are: www.epa.gov/safewater/data/getdata.html contains information for users to better analyze the data, and www.epa.gov/safewater/sdwis_fed/index.html contains reporting guidance, system and user documentation and reporting tools for the SDWIS-FED system.

FY 2004 Performance Measure: Number of community water systems and percent of population served by those CWS that are implementing source water protection programs.

Performance Database: Under Section 1453 of the Safe Drinking water Act (SDWA), EPA’s 1997 National Guidance on Source Water Assessment and Protection Programs requires states to

report to EPA on four of the six elements of a source water protection program for each public water system (PWS). The four elements are: 1) delineation of the source water area, 2) inventory of actual and potential sources of contamination, 3) susceptibility of the water supply to contamination, and 4) release of the assessment data to the public. EPA's Regional Offices also track, based on an agreement with states, the final two elements of a source water protection program: 1) whether each public water system with the first four elements completed also is taking measures to prevent, reduce, or eliminate contamination threats to source water, and 2) whether the public water system is developing contingency plans should contamination occur. The Agency currently develops a national summary of data on the progress of state source water protection programs using these six data elements. A drinking water system that reports all six elements is considered to be implementing a source water protection program.

EPA now holds one year of data (for FY 2001) for each state and Puerto Rico in an Excel database. Starting in FY 2004 primacy states with approved source water programs will begin using a SDWIS-based source water protection module that will be operational by the end of FY 2003 to submit all assessment and contamination prevention data to the Agency. [Not publicly available. Contact the Drinking Water Protection Division at 202-564-3797.]

Data Source: Each state reports to EPA's Regional Offices the total number of public water systems that have completed each of the six elements.

Methods, Assumptions and Suitability: The source water assessment components of this measure (delineation, source inventory, susceptibility analysis, and availability to public) are defined in EPA's 1997 guidance. However, the states collect the data in different ways. Some states collect the data by communicating directly with drinking water system operators. Others use statistical sampling or best professional judgment. EPA therefore assumes that the statistics on percentage of the population served by each PWS are either: 1) directly related to specific community water systems in a data base; 2) directly related to the community water systems which are sampled in a statewide statistical sample; or 3) estimated using best professional judgment. EPA also assumes that these data may be aggregated to report a national measure of performance and are suitable for year-to-year comparisons of progress. The data are reliable to the extent that each state is accurately tracking the number of completed elements for each PWS.

QA/QC Procedures: There is currently no QA/QC procedure for the collection of source water data. EPA continues to work with states to obtain a description of their methods of collecting and verifying information.

Data Quality Reviews: As primacy states increase their use of the source water module in FY 2004 and beyond, the source water assessment data will be included in the data quality analyses conducted under the SDWIS Data Reliability Action Plan (DRAP) (previously referenced) and the drinking water program's Information Strategy (previously referenced). Under the umbrella of these analyses, the EPA Regions can conduct data quality reviews of the state data and work with the states to resolve any data exceptions. As a result, EPA expects the quality of data on assessments and contamination prevention activities to improve over time.

Data Limitations: There is no standard methodology or protocol for collecting, verifying and validating the data, which are based on system-level information contained in state databases. In

addition, the SDWA only requires source water assessments, not protection activities, so EPA guidance is limited to the first four data elements, and states provide data on source water protection activities and contingency plans on a voluntary basis. In the absence of an established methodology, states may use different data collection protocols, and may apply different analytical methods to evaluate the data. For example, some states may require each public water system (PWS) to report data, while others may institute a voluntary process. Further, those states that use statistical surveys may choose samples differently. This variability may lead to inaccuracies or incomplete data.

Error Estimate: There is no basis for making an error estimate for this performance measure given the data limitations described above.

New/Improved Data or Systems: EPA is developing a new source water module (repository) for data on source water assessments and protection activities it receives from the States through data exchange agreements. This module should be operational by the end of FY 2003, and states will begin reporting source water information to EPA through this module in FY 2004, which will be compatible with PWS-level inventory data already housed in SDWIS/Fed. EPA and states also are developing internal measures and data elements to characterize the aggregated results of the source water assessments. Finally, EPA and states are jointly developing performance measures and data elements to estimate the risk reduction achieved by communities that implement source water protection programs.

References: N/A.

FY 2004 Performance Measure: **Cumulative lake acres assessed for the need for fish advisories and compilation of state/Tribal-issued fish consumption advisory methodologies; Cumulative River miles assessed for the need for fish consumption advisories and compilation of state/Tribal-issued fish consumption advisory methodologies; states/tribes monitoring and conducting assessments based on the national guidance to establish nationally consistent fish advisories.**

Performance Database: National Listing of Fish and Wildlife Advisories. The database includes fields identifying the waters for which fish consumption advisories have been issued. The EPA Total Waters database is used to calculate the spatial extent of the fish advisory. This information is updated continually as states and tribes issue or revise advisories. Metadata are also available describing methodologies used by states and tribes for establishing advisories.

Data Source: State and Tribal governments.

Methods, Assumptions and Suitability: The percentage of lake acres and river miles assessed is the ratio of the surface area of lakes and/or rivers for which states submit data to the National Listing of Fish & Wildlife Advisories database and the total water surface area in the United States. It is a simple mathematical calculation.

QA/QC Procedures: A standard survey has been approved by OMB, which is available on the Internet for electronic submission. A password is issued to ensure the appropriate party is completing the survey. EPA has national guidance for states and tribes on developing and

implementing quality assurance practices for the collection of environmental information related to fish advisories. This guidance helps assure data quality.

Data Quality Review: EPA reviews advisory entries and responses to the survey to ensure the information is complete, then follows-up with the state or local government to obtain additional information where needed. However, the Agency cannot verify the accuracy of the voluntary information state and local governments provide.

Data Limitations: Participation in this survey and collection of data is voluntary. While the voluntary response rate has been high, it does not capture the complete universe of advisories.

Error Estimate: Because submitting data to the National Listing of Fish & Wildlife Advisories database is voluntary, the Agency cannot be certain that the database contains information on 100% of the assessed waters in the United States. Therefore, we may be understating the total amount of waters assessed, the magnitude of which is not known.

New/Improved Data or Systems: A proposed enhancement to the system is the use of a GIS procedure to calculate the spatial extent of geo-referenced advisories based on the National Hydrography Dataset (NHD). This procedure will provide size information for the vast majority of waterbody-specific advisories. In cases where the state has already provided information, the state's sizes will be retained rather than replaced with results from the NHD calculations.

References: The National Listing of Fish & Wildlife Advisories database is on the Internet at <http://map1.epa.gov/>.

FY 2004 Performance Measure: Cumulative number of beaches for which monitoring and closure data is available to the public at <http://www.epa.gov/waterscience/beaches/>.

Performance Database: National Health Protection Survey of Beaches Information Management System. The database includes fields identifying the beaches for which monitoring and notification information is available. The database also identifies those states that have received a BEACH (Beaches Environmental Assessment and Coastal Health) Act [P.L. 106-284] grant. This information is updated annually.

Data Source: Data are obtained from National Health Protection Survey of Beaches, which is a voluntary collection of beach data along the coastal and Great Lake states and territories. State and local governments voluntarily provide the information. The survey began in 1997 with information on 1,021 beaches, and now includes records on 2,445 beaches. The database includes fields identifying the beaches for which monitoring and notification information is available.

Methods, Assumptions and Suitability: Performance is tracked using a simple count of the number of beaches responding to the survey.

QA/QC Procedures: A standard survey form, approved by OMB, is distributed by mail to coastal states, Great Lakes states, and county environmental and public health beach program officials. The form is also available on the Internet for electronic submission. In 2001, survey

respondents comprised; 42% county, 31% city, 12% state, 6% district, 4% region, 2% National park, 2% state park, 1% other. When data are entered over the Internet by a state or local official, a password is issued to ensure the appropriate party is completing the survey. EPA reviews the survey responses to ensure the information is complete, then follows up with the state or local government to obtain additional information where needed. However, because the data are submitted voluntarily by state and local officials, the Agency cannot verify the accuracy of the information provided.

Participation in this survey and collection of data is voluntary and information has not been collected on the universe of beaches. The voluntary response rate was 88% in 2001(237 out of 269 contacted agencies responded). The number of beaches for which information was collected increased from 1,021 in 1997 to 2,445 in 2001. Participation in the survey will become a mandatory condition for grants awarded under the BEACH Act program (described below); however, state and local governments are not required to apply for a grant. Those states receiving a BEACH Act grant are subject to the Agency's grant regulations under 40CFR 31.45 which require states and tribes to develop and implement quality assurance practices for the collection of environmental information; these procedures will help assure data quality.

Data Quality Review: EPA reviews the survey responses to ensure the information is complete, then follows up with the state or local government to obtain additional information where needed. However, the Agency cannot verify the accuracy of the voluntary information state and local governments provide.

Data Limitations: Participation in this survey and collection of data is mostly voluntary. While the voluntary response rate has been high, it does not capture the complete universe of beaches. Participation in the survey will become a mandatory condition of grants awarded under the BEACH Act program (described below); however, state and local governments are not required to apply for a grant. Currently the Agency has data standards but procedures, methods, indicators, and thresholds can vary between jurisdictions because, to date, this has been a voluntary program. The Agency expects the limitations to diminish as more states apply for BEACH Act grants.

Error Estimate: No error estimate is available for this data.

New/Improved Data or Systems: With the passage of the BEACH Act of 2000, the Agency is authorized to award grants to states to develop and implement monitoring and notification programs consistent with Federal requirements. As the Agency awards these implementation grants, it will require standard program procedures, sampling and assessment methods, and data elements for reporting. To the extent that state governments apply for and receive these grants, the amount, quality, and consistency of available data will improve. In addition, the BEACH Act requires the Agency to maintain a database of national coastal recreation water pollution occurrences. The Agency will fulfill this requirement by revising the current database to include this new information. In revising the database, the Agency will be investigating modes for electronic exchange of information and reducing the number of reporting requirements.

References: <http://www.epa.gov/waterscience/beaches/>.

FY 2004 Performance Measure: Final reports of full-scale demonstrations of arsenic treatment technologies.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: Reports

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2004 Performance Measure: Deliver verifications of two treatment technologies for application in buildings by commercial and residential users, utilities, and public officials to treat contaminants in drinking water supplies.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: Verifications consist of the following steps:

1. Based on generic verification protocols if available, the specific test/QA plan for each product is developed and agreed to by EPA, the testing partner, and the vendors;
2. the product is tested using the procedures outlined in the test/QA plan;
3. audits of the test event are conducted by EPA and the partners, and rigorous QA evaluations of the resulting test data are performed;
4. after testing and analysis, the partner drafts the verification statements and reports which are reviewed by EPA, the participating vendors, and peer reviewers; and
5. after addressing review comments and receiving approval from EPA management, EPA and the partner sign the verification statements.

Data Quality Reviews: Verifications

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

Coordination with Other Agencies

The 1996 SDWA amendments include a provision that mandates a joint EPA and Center for Disease Control (CDC) study of waterborne diseases and occurrence studies in public water supplies. CDC is involved in assisting EPA in training health care providers (doctors, nurses, public health officials, etc.) on public health issues related to drinking water contamination and there is close CDC/EPA coordination on research on microbial contaminants in drinking water. EPA has in place a Memorandum of Understanding (MOU) and Interagency Agreement (IAG) with the CDC in the Department of Health and Human Services (DHHS) to implement this provision.

In implementing its source water assessment and protection efforts, the Agency coordinates many of its activities with other Federal agencies. There are three major areas of relationships with other agencies concerning source water assessments and protection.

Public Water Systems (PWSs). Some Federal agencies, i.e., USDA (Forest Service), DOD, Department of Energy, DOI (National Park Service), and USPS, own and operate public water systems. EPA's coordination with these agencies focuses primarily on ensuring that they cooperate with the states in which their systems are located, and that they are accounted for in the states' source water assessment programs as mandated in the 1996 amendments to the SDWA.

Data Availability, Outreach and Technical Assistance. EPA coordinates with USGS (US Geological Survey), USDA (Forest Service, Natural Resources Conservation Service, Cooperative State Research, Education, and Extension Service (CSREES), Rural Utilities Service); DOT, DOD, DOE, DOI (National Park Service and Bureaus of Indian Affairs, Land Management, and Reclamation); DHHS (Indian Health Service) and the Tennessee Valley Authority.

Collaboration with USGS. EPA and USGS have identified the need to engage in joint, collaborative field activities, research and testing, data exchange, and analyses, in areas such as the occurrence of unregulated contaminants, the environmental relationships affecting contaminant occurrence, evaluation of currently regulated contaminants, improved protection area delineation methods, laboratory methods, and test methods evaluation. EPA has an IAG with USGS to accomplish such activities. This collaborative effort has improved the quality of information to support risk management decision-making at all levels of government, generated valuable new data, and eliminated potential redundancies.

Research

While EPA is the Federal agency mandated to ensure safe drinking water, other Federal and non-Federal entities are conducting research that complements EPA's research program on priority contaminants in drinking water. For example, health effects and exposure research is being conducted by the Centers for Disease Control and Prevention (CDC) and the National Institute of Environmental Health Sciences (NIEHS). The Food and Drug Administration (FDA) are also conducting research on children's risk. Many of these research activities are being conducted in collaboration with EPA scientists. The private sector, particularly the water treatment industry, is conducting research in such areas as analytical methods, treatment technologies, and the development and maintenance of water resources.

A Microbial/Disinfection By-Product Research Council was established in 1995 with the American Water Works Association Research Foundation (AWWARF) and other stakeholder groups to coordinate research on microbial pathogens and DBPs. EPA is also working with the United States Geological Survey (USGS) to evaluate the performance of newly developed methods for measuring microbes in potential drinking water sources.

Interactions with external stakeholder groups have been initiated that will help determine EPA's future regulatory priorities and research needs for drinking water. Interactions with the Science Advisory Board's Drinking Water Committee and the National Drinking Water Advisory Committee will also help EPA to refine its drinking water research agenda.

Statutory Authorities

Safe Drinking Water Act

Clean Water Act

Toxic Substances Control Act

Research

Safe Drinking Water Act

Clean Water Act

Toxic Substances Control Act

Environmental Protection Agency

**FY 2004 Annual Performance Plan and Congressional Justification
Clean and Safe Water**

Objective: Protect Watersheds and Aquatic Communities

By 2005, increase by 175 the number of watersheds where 80 percent or more of assessed waters meet water quality standards, including standards that support healthy aquatic communities. (The 1998 baseline is 501 watersheds out of a national total of 2,262.)

**Resource Summary
(Dollars in Thousands)**

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Protect Watersheds and Aquatic Communities	\$474,725.2	\$435,814.7	\$479,787.4	\$43,972.7
Environmental Program & Management	\$198,157.5	\$162,894.0	\$179,114.8	\$16,220.8
Hazardous Substance Superfund	\$0.0	\$25.7	\$2.6	(\$23.1)
Science & Technology	\$41,203.5	\$38,592.9	\$41,270.0	\$2,677.1
State and Tribal Assistance Grants	\$235,364.2	\$234,302.1	\$259,400.0	\$25,097.9
Total Workyears	1,000.5	988.8	989.3	0.5

**Key Program
(Dollars in Thousands)**

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Chesapeake Bay	\$20,551.8	\$20,650.8	\$20,777.7	\$126.9
Congressionally Mandated Projects	\$33,107.4	\$0.0	\$0.0	\$0.0
Ecosystems Condition, Protection and Restoration Research	\$37,785.0	\$38,592.9	\$41,270.0	\$2,677.1
Facilities Infrastructure and Operations	\$5,673.6	\$13,851.3	\$13,870.8	\$19.5

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Great Lakes	\$2,671.0	\$2,684.7	\$2,712.2	\$27.5
Gulf of Mexico	\$4,261.6	\$4,327.4	\$4,431.7	\$104.3
Lake Champlain	\$2,500.0	\$954.8	\$954.8	\$0.0
Legal Services	\$3,462.8	\$3,755.0	\$3,889.5	\$134.5
Long Island Sound	\$2,500.0	\$477.4	\$477.4	\$0.0
Management Services and Stewardship	\$11,763.0	\$4,571.2	\$3,062.3	(\$1,508.9)
Marine Pollution	\$7,994.8	\$8,170.7	\$12,630.1	\$4,459.4
National Estuaries Program/Coastal Watersheds	\$24,521.3	\$19,246.2	\$19,094.2	(\$152.0)
Pacific Northwest	\$1,003.8	\$1,028.5	\$1,072.5	\$44.0
Planning and Resource Management	\$0.0	\$0.0	\$574.1	\$574.1
Regional Management	\$429.0	\$450.5	\$952.0	\$501.5
South Florida/Everglades	\$2,648.3	\$2,665.5	\$2,690.0	\$24.5
State Pollution Control Grants (Section 106)	\$192,476.9	\$180,376.9	\$200,400.0	\$20,023.1
State Water Quality Cooperative Agreements	\$18,958.2	\$38,958.2	\$19,000.0	(\$19,958.2)
State Wetlands Program Grants	\$14,967.0	\$14,967.0	\$20,000.0	\$5,033.0
TMDLs	\$21,232.1	\$21,433.2	\$25,083.7	\$3,650.5
Targeted Watershed Grants	\$0.0	\$0.0	\$20,000.0	\$20,000.0
Water Quality Criteria and Standards	\$18,782.4	\$19,127.2	\$24,076.8	\$4,949.6
Water Quality Monitoring and Assessment	\$11,665.1	\$11,967.7	\$14,072.1	\$2,104.4
Watershed Assistance	\$7,821.6	\$9,479.1	\$9,395.6	(\$83.5)
Wetlands	\$17,829.8	\$18,381.9	\$19,299.9	\$918.0

FY 2004 Request

EPA, in concert with other Federal natural resource agencies, continues to pursue a comprehensive strategy for assessing and restoring the Nation's most impaired watersheds to achieve healthy aquatic communities and attain clean water and public health goals. Fundamental to the Agency's efforts to meet this objective is the management of water quality resources on a watershed basis, with the full involvement of all stakeholders, including

communities, individuals, businesses, state and local governments, and tribes. EPA's ability to meet this objective depends on the success of regulatory and non-regulatory programs, primarily at the state and local level, and nationwide efforts to implement a broad range of policy, planning, and scientific tools to establish local goals and assess progress.

Water Quality Monitoring

Current water quality monitoring efforts yield insufficient data for states and others to make watershed-based decisions, to develop necessary standards and Total Maximum Daily Loads (TMDLs), and to accurately and consistently portray conditions and trends. Enhanced monitoring and assessment support to begin filling these gaps will be a key component in FY 2004. This will include working with the states to enhance their monitoring and assessment programs, with a particular emphasis on the probabilistic approach, to support water quality decision-making, and will provide additional support to encourage the establishment of state-level monitoring councils and local watershed monitoring consortiums.

The Agency will continue to work with its state and Tribal partners to establish and maintain water quality standards and monitoring and assessment programs appropriate to their identified goals and needs, including addressing the elements outlined in EPA's monitoring and assessment guidance and Clean Water Act (CWA) Sections 303(d) and 106 requirements. Specifically, EPA will be helping states in FY 2004 implement their improved monitoring strategies developed in FY 2003 to build towards more robust state monitoring programs covering the ten basic elements outlined in EPA guidance. Additional resources will be particularly focused on helping states improve their basic water quality monitoring programs with a goal of 15 states with comprehensive monitoring strategies.

EPA will assemble and report state water quality assessments and will continue to help states consolidate their water quality reporting under CWA Sections 303(d) and 305(b). EPA is integrating its programs for characterizing, assessing and monitoring the condition of the Nation's waters. EPA ensures that states and tribes are entering relevant water quality and related data into EPA's modernized national data Storage and Retrieval System (STORET); we will also work with other Federal agencies to increase their use of STORET. An important use of state comprehensive water quality assessment programs and other data is making that data available not only to decision-makers, but also to the public.

One part of this effort is a highly detailed map of waters of the United States contained within the National Hydrography Database. Geographic layers of data, interacting with up-to-date databases, are being developed for a variety of areas including 303(d) listed waters, water quality standards, and National Pollutant Discharge Elimination System (NPDES) discharges. STORET data will also be accessible on a watershed-basis. The new Watershed Assessment, Tracking and Environmental Results System (WATERS) unifies key water quality information, including water quality standards and status of impaired waters, and allows users to map the results for specific geographic areas.

Water Quality Standards

Critical to improving water quality is our refinement of scientifically sound water quality standards. The Agency will continue to support states and tribes in incorporating risk analyses, priority setting, and risk management decisions, and in state/Tribal adoption and implementation of water quality standards based on revised criteria. The Agency will continue to enhance Better Assessment Science Integrating Point and Nonpoint Sources (BASINS), a geographic information system which links projected nonpoint source (NPS) runoff with point source discharges, to access information on the Internet and thus enable TMDL developers and NPDES permit writers to use the most current information to better address site-specific conditions. The Agency will also provide training to state and EPA staff to utilize BASINS in establishing TMDLs and issuing NPDES permits.

EPA will work with its state partners to ensure that they adopt up-to-date criteria to protect designated uses. In FY 2004, the Agency will begin to update its aquatic life methodology to incorporate new and emerging science to ensure it continues to develop and publish scientifically defensible criteria for a broad range of stressors. EPA will continue to assist states and tribes in adopting these criteria to protect public health, attain and maintain aquatic life and other designated uses, and improve the chemical, physical, and biological integrity of the Nation's waters. EPA will accelerate the adoption of biological criteria, designed to help control nutrients, toxic chemicals and other watershed stressors, into state and Tribal water quality standards by developing needed guidance materials and supporting state/Tribal program implementation. EPA will determine how to best integrate or align its criteria to support designated uses. The Agency will continue to develop and expand web sites to provide public access to contents of water quality standards. The Agency will also continue to develop and enhance PC-based modeling software to support implementation of water quality standards.

In July 1997, the United States District Court issued a ruling whereby state water quality standards do not go into effect under the CWA until approved by EPA. The Agency is devoting significant effort to reduce the backlog of approval actions waiting to be taken on states' proposed water quality standards. In FY 2004, EPA will continue to implement strategies necessary to take action on state water quality standards within the statutory deadlines. In support of this effort, the Agency will continue to make available and expand on the Internet a comprehensive repository and geographic database containing state water quality standards that will help ensure nationwide consistency in state programs and support timely action on states' proposed water quality standards.

In FY 2004, EPA will increase funding to work with state and Tribal partners to ensure that water quality standards are effective and appropriate for use in developing TMDLs. The National Research Council's 2001 assessment of the TMDL program found that the designated uses and criteria in existing standards often need more detail and refinement before they can be used as a firm basis for requiring load reductions through TMDLs. Standards also may not protect drinking water sources adequately, and may not reflect biological assessments and criteria. To address these concerns and to implement the strategy, EPA will provide technical guidance and training that will help states and tribes conduct their own use attainability analyses, and to help refine and interpret standards to ensure they are adequate for use in developing load

reduction targets. In addition, EPA conducted a customer-focused review of the National Water Quality Standards program and developed a draft long-term strategy that calls for improvements and streamlining in EPA's program. EPA will continue to implement the higher prioritized elements of the strategy. EPA will also accelerate the technical reviews necessary for EPA to approve new or revised state/Tribal standards on a timely basis for use in TMDLs, including the biological evaluations of whether these standards provide adequate protection to endangered species.

The Agency will continue to implement its Nutrient Strategy in partnership with states and tribes. EPA will assist states and tribes in using EPA's criteria and guidance to address implementation issues related to controlling nutrient levels. Nutrients can lead to eutrophication and are associated with harmful algal blooms and other public health concerns. The Agency will continue to publish eco-regional guidance documents for nutrient indicator variables (e.g., total nitrogen, total phosphorus, chlorophyll-a, and clarity) and help states and tribes develop and implement plans for adopting nutrient criteria for their waterbody types and geographical regions. EPA will award grants to states, local governments, and tribes to help them implement nutrient criteria and biological criteria.

In watersheds where sediment contamination is determined to be widespread, especially in the Great Lakes Region, the Agency will continue to help states and tribes evaluate sediment quality, make decisions about appropriate control measures, and implement new methodologies that address a wider range of pollutants. The Agency will also continue to maintain the National Sediment Inventory for the purposes of preparing the next biennial report to Congress on contaminated sediments.

TMDLs

The Agency will continue to work with states and tribes to carry out their TMDL programs focused more in FY 2004 on a watershed basis to identify those waters not meeting clean water goals, help restore impaired watersheds, and to meet the many court-supervised deadlines for completing TMDLs. Additional resources will support increased TMDL development and approval, including fostering innovations such as trading and watershed-based permitting. The pace of TMDL development is projected to reach approximately 3,500+/year. This represents a fourfold increase in the annual number of TMDLs developed since 1999. Currently, there are consent decrees in 22 states which directly obligate EPA to "backstop" state listing decision and establishment of TMDLs.

While increasing the pace of TMDL development remains important, EPA must work with states to help assure implementation of already-approved TMDLs, including targeting CWA Section 319 NPS funding and marshaling Farm Bill conservation programs. EPA will assist states in revising their continuing planning processes under CWA Section 303(e) to place more emphasis on assuring needed watershed implementation. EPA will also advance and disseminate a better understanding of the ability of NPS control measures to result in true load reductions, assist states in designing site specific solutions that will achieve clean water at the least cost, and develop guidance and technical documents to help states address complex TMDLs.

Oceans and Coastal Protection

EPA will support the National Estuary Program (NEP) as all 28 estuaries continue to implement their Comprehensive Conservation and Management Plans (CCMPs). This will include development and application of environmental indicators to assess status and trends in the NEPs, as well as measuring the success of implementation of priority action plans in CCMPs, including the addition of 25,000 acres of protected or restored habitat. EPA will emphasize and support coastal partnerships to assist local decision-makers in developing and implementing protection programs for coastal watersheds, including assisting local governments in developing and implementing principles to reduce the impacts of development and growth on water quality.

Following consultation with the armed forces, EPA will enhance its regulation of discharges of pollution from vessels, in particular: sewage discharges (CWA Section 312 program); cruise ship discharges; and operational discharges from vessels of the Armed Forces (CWA Section 312(n) - Uniform National Discharge Standards), as well as its development of ballast water standards for aquatic nuisance species. This increased level of activity will enable EPA to more quickly address national and international issues regarding vessel discharges, including those from cruise ships. This investment responds to legislation regarding cruise ships in Alaskan waters, GAO and other reports on the need to enhance cruise ship regulation, and continuing violations of existing standards.

The Agency will manage pollution sources subject to the Marine Protection, Research, and Sanctuaries Act (MPRSA); the CWA; the Marine Plastic Pollution Research and Control Act, and other related programs to further protect and enhance our Nation's coastal and ocean waters. EPA will focus additional resources on bolstering implementation of its statutory responsibilities under the MPRSA regarding site evaluation, designation and monitoring, and permit review and concurrence. In particular, EPA will work to expeditiously refine the site designation and management of the Historic Area Remediation Site (HARS) off the New Jersey coast. Efforts will continue to develop bioaccumulation risk guidance to enable EPA Regions and Corps of Engineers districts to reach decisions on the suitability of dredged material for open water disposal, development of a guidance document on implementation of cost effective beneficial use projects in the context of watershed planning, designation of dredged material disposal sites, and implementation of site management and monitoring plans. Progress in these areas will depend on sound science derived from improved research and monitoring efforts in coastal and marine waters.

For coastal ports and harbors, EPA will work with Federal and state partners (e.g. the National Dredging Team) and other stakeholders to establish and promote Regional Dredging Teams and local planning groups to help ensure that comprehensive dredged material management plans, including provisions for the beneficial re-use of dredged material, are developed and implemented to maintain, restore, and improve the health of coastal ecosystems.

Tribes

In support of the Agency's Tribal partnership efforts, the Agency will continue to help train tribes on basic water programs, including NPS, watershed management, water quality

monitoring, and water quality standards and criteria. The Agency will continue distribution of a National Tribal Watershed Assessment Framework to support defensible, reproducible Tribal assessments of the conditions of their watersheds and the sources of watershed impairments.

State and Tribal Grants

CWA Section 106 grants to states, tribes, and interstate agencies help fund key programs for the prevention, reduction, and elimination of surface and ground water pollution from point and NPSs and for enhancing the ecological health of the Nation's waters. Within this objective \$200,400,000 is requested for this grant program, a \$20,023,100 increase over the FY 2003 President's Budget request. Activities within the CWA Section 106 program include NPDES permitting, water quality planning and standard setting, pollution control studies, assessment and monitoring, and training and public information. State efforts funded by CWA Section 106 grants will include activities related to the restoration of impaired watersheds (TMDLs) including all facets of this program, i.e., pre TMDL needs such as monitoring and assessment and standards development, development of TMDLs and post-TMDL implementation and restoration; implementing integrated wet weather strategies in coordination with NPS programs; and developing source water protection programs. Tribes will continue to conduct watershed assessments and will maintain and improve their capacity to implement water quality programs through monitoring, assessments, planning, and standards development.

The increase for CWA Section 106 grants, when coupled with the EPM increases, will help states and tribes fill critical gaps in fulfilling their basic CWA responsibilities. Additional funds will support a mixture of activities, depending on individual states' needs, including water quality monitoring and assessment, standards development, TMDL development, and NPDES permitting.

The Agency is requesting \$19,000,000 for Water Quality Cooperative Agreements (WQCA). These resources will provide continued support in the creation of unique and innovative approaches to address requirements of the NPDES program, with special emphasis on wet weather activities, (i.e., storm water, combined sewer overflows, sanitary sewer overflows and animal feeding operations). In addition, these grants have long supported other programmatic activities such as systems asset management, environmental management systems for water pollution control, and various other program innovations.

Geographic Initiatives

EPA will continue to support targeted geographic watershed initiatives of national importance, including the NEP, the Chesapeake Bay Program, Gulf of Mexico Program (GMP), South Florida/Everglades, and the Pacific Northwest Forest Plan. Special emphasis on these varied Regions provides the opportunity not only to have necessary heightened Federal involvement in critical watersheds, but also to develop and implement water quality control practices and other management tools whose successes can be transferred to other watersheds nationwide. EPA is also committed to supporting the Interior Columbia Basin Ecosystem Management Project, the Long Island Sound Office, the Lake Champlain Management Conference and Lake Pontchartrain requirements in the Estuaries and Clean Waters Act of 2000.

Through the Targeted Watershed Grants program, the Agency will continue to provide direct grants to watershed stakeholders ready to undertake immediate action, and support local communities in their efforts to expand and improve existing watershed protection measures with tools, training and technical assistance. Modeled after successful existing programs such as the efforts to restore the Charles River, targeted inland and coastal watersheds will be chosen based on criteria established in consultation with state, local and other stakeholder partners, with emphases on achieving environmental results, evidence of strong, diverse stakeholder support, especially at the state and local levels, and readiness to proceed based on existing problem identification. Expected benefits include: additional places and times that waters could be used for boating, fishing, and swimming; restoration, protection, or creation of terrestrial and aquatic habitat; economic benefit (e.g., re-opening shellfish beds, improved public access to waterfronts and other highly valued resource areas); protection of groundwater aquifers; protection and increase in number of acres of open space; and enhanced flood protection.

In addition, EPA will focus a portion of the Targeted Watershed Grants to enhance its support for implementing *The Action Plan for Reducing, Mitigating and Controlling Hypoxia in the Northern Gulf of Mexico*. The Mississippi River and its tributaries sustain a vital link in the ecology and economy of our country, but serious stresses are challenging the integrity of the ecosystem. In recognition of one of these stresses, hypoxia, public and private partners created *The Action Plan* to promote nutrient reductions in the Mississippi Basin. EPA is strongly committed to helping implement this plan using a variety of tools and approaches, including the Targeted Watershed Grants.

Gulf of Mexico

The Gulf of Mexico Program (GMP) is a consortium of organizations working together to initiate cooperative actions by public and private organizations to restore, protect, and maintain the Gulf of Mexico ecosystem in ways consistent with the economic well being of the region.

The GMP works closely with the five Gulf States, Gulf coastal communities, citizens, non-government organizations, and Federal agencies to achieve specific environmental results. These include, by FY 2009, assisting the states in restoring over 70 impaired coastal water bodies in 12 priority coastal areas and restoring or protecting 20,000 acres of important coastal and marine habitats.

The GMP provides direct technical and financial assistance to the Gulf States, local governments, and non-profit organizations. In FY 2004, the GMP will focus its efforts on implementing priority projects, as identified by the Gulf States that will contribute to watershed-based efforts to improve 14 water bodies currently identified as impaired, and to protect, enhance, or restore 2,400 acres of important coastal and marine habitats that are essential for sustaining the Gulf's fisheries. The GMP will also continue support for Gulf-wide initiatives that have a broad, regional, large ecosystem or multiple Gulf States perspective (i.e., hypoxia, harmful algal blooms, monitoring and assessment).

Chesapeake Bay

The Chesapeake Bay Program, formed in 1983, is a unique regional partnership in leading and directing the restoration and protection of the Chesapeake Bay and its tributaries. The Bay Program partners include the states of Maryland, Pennsylvania, and Virginia; the District of Columbia; the Chesapeake Bay Commission, a tri-state legislative body; and the United States Environmental Protection Agency (EPA) which represents the Federal government.

In June 2000, the Chesapeake Bay Program adopted the Chesapeake 2000 agreement which contains 104 commitments aimed at restoring the Bay. The Chesapeake 2000 agreement has five sections outlining commitments to protect and restore living resources, vital habitats, and water quality; promote sound land use; and to encourage stewardship and community engagement. The primary goal of the new agreement is to remove nutrient and sediment impairments sufficiently to sustain the living resources of the Chesapeake Bay and its tidal tributaries and to maintain that water quality into the future. The partnership is working towards publication of new criteria and designated uses by EPA for the Bay, adoption of new water quality standards in the tidal waters by the states, and agreement on increased reduction goals for nutrients and a new reduction goal for sediment.

Wetlands

In October 2002, a Presidential Proclamation stated that, "Recent studies show that we are close to achieving our goal of halting overall wetlands loss, and we are hopeful that in the near future we will begin increasing the overall function and value of our wetlands." EPA will continue to work toward reversing historic trends of wetland losses and restoring some of the 54 percent of the Nation's wetlands already drained or filled. EPA will contribute to this wetlands quantity goal by helping to improve compensatory mitigation success, supporting wetlands restoration efforts, and building state and Tribal capacities to monitor and protect wetland resources.

Working with other Federal agencies, EPA and the Corps of Engineers will implement CWA Section 404 to protect wetlands, free-flowing streams, and shallow waters in a fair, flexible, and effective manner. Program improvements will be implemented to ensure program activities are effectively and consistently applied under the CWA. EPA and the Corps, working with other agencies and stakeholders, will advance the regulatory program goal of halting overall wetlands loss by improving the policy, science, and technical assistance associated with compensatory mitigation to offset unavoidable losses of wetlands. Consistent with the recommendations of the 2001 National Academy of Sciences and GAO evaluations of compensatory mitigation under CWA Section 404, EPA will lead the development of mitigation criteria and coordinate a program with states and tribes to improve the success of compensatory mitigation. EPA will also provide assistance for evaluating the cumulative effects of CWA Section 404 discharges and other stressors on wetland ecosystems.

EPA will also take steps to advance the national goal of an increase in the quality of wetlands. Many remaining wetlands are degraded by stressors, including polluted run-off,

changes in hydrology, invasive species, and habitat fragmentation. Information on the health of wetlands is important to set priorities and to identify corrective actions. Building upon a growing number of successful projects, EPA will help states and tribes develop programs to monitor the extent and condition of their wetlands. Wetland class, landscape condition, reference sites, and biological indicators will be used to evaluate the relative health of wetlands. The information collected will be reported to give a better understanding of the condition of our wetlands and to guide management decisions to evaluate restoration success and to improve the quality of wetlands.

As a component of its watershed program, EPA will provide support and assistance for community level partnerships to restore wetlands and streams. This includes Five Star Restoration and Education Grants, restoration training, technical guidance, a comprehensive restoration web site, and a restoration newsletter.

A total of \$20,000,000 from the State and Tribal Assistance Grants (STAG) appropriation is requested to enable states, tribes and local governments to develop and strengthen their programs to conserve, manage and restore wetlands. This will support regulatory approaches as well as incentive-based programs, training, and monitoring. In 2001 the Supreme Court determined that some isolated waters and wetlands are not regulated under the CWA. Many waters with important aquatic values are no longer covered by CWA Section 404 protections. EPA is proposing an increase in grants to states and tribes to help them protect these waters as part of comprehensive programs that will achieve no net loss of wetlands, while also providing grant funding for states and tribes to assume more decision-making authority in waters that remain subject to the CWA.

Research

While it is known that the health and sustainability of aquatic ecosystems and their ecological components are affected by various types of chemical, biological, and physical stressors, there is significant scientific uncertainty associated with what effect these stressors have on the resiliency of aquatic ecosystems and their biotic components. Research in this objective, as outlined in the draft Water Quality Multi-Year Plan (MYP) for water quality, will demonstrate integrated and stakeholder driven approaches to achieving water quality goals, as well as focus on the development of watershed diagnostic methods, on understanding the importance of critical habitats, and on the impacts of habitat alteration on aquatic communities. Research to support the development of ecological criteria includes evaluating the exposures and effects of nutrients, suspended and bedded sediments, pathogens, toxic chemicals, and habitat alteration stressors on aquatic systems and understanding the structure and function of aquatic systems. This research provides the scientific foundation to support Total Maximum Daily Loads (TMDLs). To provide focus to its research on the effects of stressors on ecosystems, habitat alteration, diagnostic methods, and landscape modeling, EPA developed the Ecological Research Strategy. This strategy was subject to rigorous external peer review and addresses those problems that pose the greatest risks to the environment. In addition, the draft Water Quality MYP provides a framework for integrating research across laboratories and centers and across GPRA goals. To ensure quality, all scientific and technical work products undergo either

internal or external peer review, with major or significant products requiring external peer review.

Research to understand the association between nutrient loading and hypoxia, algal blooms, and eutrophication will continue in FY 2004. An area of approximately 7,000 square miles in the Gulf of Mexico is hypoxic, and the incidence of algal blooms is increasing in coastal waters worldwide. These stresses threaten ecosystem integrity, sustained use, and productivity. EPA is developing stressor response models to understand and predict the relationship between stressors such as nutrients, eutrophication, and hypoxia on aquatic ecosystems including wetlands, riparian zones, sediments, and freshwater and marine ecosystems. EPA is also developing an ecological risk assessment for nutrients, initially focusing on nitrogen, as part of its program to develop common methodologies for integrating ecological and human health assessments. Research on the ecology and oceanography of harmful algal blooms (HABs) is underway as part of a joint effort with other Federal agencies including the National Oceanic and Atmospheric Administration (NOAA) and the National Science Foundation (NSF). In FY 2004 a protocol to classify eutrophication models for nutrient load allocation in coastal systems as well as a classification scheme for predicting sensitivity of coastal receiving waters to effects of nutrients on submerged aquatic vegetation and food webs will be completed.

In FY 2004 the Agency will increase resources to address uncertainties associated with managing and reducing the risks to human health of the production and application of treated wastewater sludge (biosolids) to land for use as fertilizers. Approximately 3.4 million dry tons of biosolids are applied to thousands of acres annually in the United States. The technical basis for current regulations was largely developed in the mid-1970s to early 1980s, while composition of biosolids has changed markedly since then and technical advances allow for better characterization, assessment and management of sewage sludge. Of concern are the potential health impacts on exposed population. Pathogen and chemical contaminant impacts are of especially high concern for high risk groups in the general public living near application sites, including children and pregnant women, the elderly, and others with immune deficiencies. This research program will address data gaps as well as issues in management practices that were identified in the recent National Academy of Science (NAS) report on this topic. Research will focus on exposure and health risk assessments, techniques to measure and characterize contaminants in raw and treated sewage sludge, the effectiveness of current sewage sludge treatment processes, and the development of improved and more cost-effective approaches to address changing sewage sludge composition. In FY 2004 the focus will be principally on exposure assessment and characterization methodology development.

Also in FY 2004 research on suspended and bedded sediments will continue. Although suspended and bedded sediments are a natural part of aquatic ecosystems critical to the energy cycle of the water body and the provision of microhabitats, they have become stressors associated with human activity that adversely affect aquatic habitats. In the 1998 EPA Report to Congress, *Water Quality Inventory*, suspended solids and sediments were identified among the leading causes of water quality impairment for streams and rivers. To maintain natural background levels of suspended and bedded sediments, water resource managers need scientific tools that are currently not available. In FY 2004, this research program will continue to develop tools to determine background sediment levels inherent to a region. The Agency's research

program will also focus on understanding the stressor response relationships between sediment imbalances and impacts to aquatic communities. Risk management strategies will be developed to help reduce the impact of human activities on sedimentation and to maintain sediments at background levels.

Chemical stressors also impact aquatic life, the benthic community, wildlife, and human health. Research in this area focuses on developing scientifically defensible methods to better describe the risks of toxic chemicals to aquatic and aquatic-dependent populations and communities. Specific goals are to: 1) demonstrate methods for water quality criteria for bioaccumulative and non-bioaccumulative chemicals based on more complete and accurate risk characterization of toxic chemicals to aquatic organisms; 2) provide methods for water quality criteria based on population-level risk characterization of toxic chemicals to aquatic life and aquatic-dependent wildlife; 3) provide methods for extrapolating chemical toxicity data across exposure conditions and across endpoints, life stages, and species that can support assessment of risks to aquatic life and aquatic-dependent wildlife for chemicals with limited data; and 4) provide approaches for evaluating the relative and cumulative risks from toxic chemicals on populations of aquatic life and aquatic-dependent wildlife at local and regional scales. In FY 2004 a report evaluating selected PBT (persistent, bioaccumulative toxicant) dose-response relationships in aquatic wildlife will be published.

The main focus of habitat alteration research is to provide the scientific basis for assessing the role of essential habitat in maintaining healthy populations of fish, shellfish, and wildlife. This research will identify the relationships between habitat alteration and biological response and extrapolation schemes needed to develop broad-scale habitat criteria for streams and coastal systems. The results of this research, combined with biocriteria and monitoring research conducted under Goal 8 (Sound Science) can be used to determine biocriteria, evaluate combined effects of habitat alteration and other stressors (such as chemicals), and will facilitate ecosystem restoration decisions. In FY 2004 EPA will provide sample stressor-response relationships linking loss and alteration of habitat to selected fish, shellfish, and wildlife effects.

In FY 2004 EPA research on diagnostic methods will focus on the causes of biological and aquatic ecosystem impairment. This work will be useful in deriving criteria to protect and strengthen the biological basis for designated uses in state and Tribal water quality standards, improving the scientific foundation for addressing point and non-point source water quality impairment, and determining appropriate and effective watershed management alternatives. Specifically, this research will provide: 1) the scientific foundation and information management scheme for the 303(d) listing process, including a classification framework for surface waters, watersheds, and regions to guide problem formulation; 2) first generation diagnostics methods to distinguish among major classes of individual aquatic stressors and/or suggest causal mechanisms that contribute to impairment of marine and freshwater systems; and 3) diagnostic methods and technical support documents for determining the relative significance of multiple stressors in 303(d) listed waters. Technical guidance and assistance will also be provided to states to promote the establishment of scientifically sound bioassessments and biologically-based water quality criteria for rivers and streams.

Modeling and landscape characterization research will provide the tools to restore and protect aquatic systems and to forecast the ecological, economic, and human health outcomes of alternative management solutions. This research will address uncertainties of the sources of pollutants and the effectiveness of management options (e.g. best management practices) to control nutrients, suspended solids, sediments, pathogens, toxic chemicals and flow variations. The goal is to develop decision support tools to assist watershed managers in analyzing problems associated with these stressors and identifying cost effective solutions with a focus on mixed land-use watersheds and watersheds in transition from development pressures. This research effort will be directed toward a comprehensive understanding of the relationships between human activities and associated ecosystem stresses altered sediment loads and altered stream power as it relates to in-stream re-working.

FY 2004 Change from FY 2003 Request

EPM

- (+\$2,104,400, + 4 FTE) These additional resources will enable EPA to help states enhance their monitoring and assessment programs and use a probabilistic approach to support water quality decision-making; support state monitoring councils to bring monitoring partners and stakeholders in the state together to plan and share data; and, facilitate establishment of local watershed monitoring consortiums to plan and implement monitoring activities within a watershed.
- (+\$3,650,500, + 4 FTE) An increase in the TMDL program will help EPA approve/disapprove TMDLs in a timely manner; advance and disseminate a better understanding of the ability of NPS control measures to result in true load reductions; assist states in designing site specific solutions; develop guidance and technical documents to help states address complex TMDLs; assist states in revising their Continuing Planning Processes to provide a context for all CWA activities within the state; and, enhance the ability of WATERS (Watershed Assessment, Tracking & Environmental Results) to tie water quality status to management actions, including standards, TMDLs, and implementation actions.
- (+\$4,949,500) This increase will help reduce standards backlogs (i.e., approval/disapproval decisions, unresolved outstanding disapprovals, and uncompleted ESA consultations); support additional peer-reviewed water quality criteria and development of bioaccumulation factors for highly-bioaccumulative pollutants; enable the development of clear guidance and provide for ongoing support for state and Tribal programs to adopt the highest attainable uses; help states and tribes link standards to watershed approaches and TMDLs; and, complete the water quality standards database and make it fully accessible on the Internet.
- (+\$4,459,400) These resources will support enhancement of standards and monitoring critical to protecting our ocean resources. EPA will bolster implementation of ocean disposal requirements, including refinement of the site designation and management of the Historic Area Remediation Site. Following consultation with the Armed Forces, EPA

will also enhance regulation of discharges of pollution from vessels with special attention to cruise ships, ballast water and marine sanitation devices.

- (+\$501,500, + 4.2 FTE) This change represents the distribution of resources for Regional Information Management across all Regions.
- (\$1,153,700, - 16.6 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

STAG

- (+\$20,023,100) This increase for CWA Section 106 grants, when coupled with the EPM increases described above, will help states and tribes fill critical gaps in fulfilling their basic CWA responsibilities. Additional funds will support a mixture of activities, depending on individual states' needs, including water quality monitoring and assessment, standards development, TMDL development, and NPDES permitting.
- (+\$5,033,000) This increase for Wetlands Program Grants will enhance states' efforts to protect isolated waters and wetlands. The increase will allow states and tribes to protect these waters as part of comprehensive programs that will achieve no net loss of wetlands, while also entrusting states and tribes with more decision-making authority in waters that remain subject to the CWA.
- (-\$20,000,000) This reduction to the Water Quality Cooperative Agreements Program reflects establishment of a separate line item for the Targeted Watershed Grants Program.
- (+\$20,000,000) This increase reflects establishing the Targeted Watershed Grants Program as an independent program, separate from the WQCA program.

Research

S&T

- (+\$1,838,040 and +8.2 FTE) The purpose of this enhancement is to address the uncertainties associated with determining and reducing the risks to human health of the production and application of treated wastewater sludge (biosolids) to land for use as fertilizers as described in the recent National Academy of Science (NAS) report on this topic. Research results will include tools that enable health and environmental decision

- makers to identify the major contaminants of concern found at sludge application sites, assess the risks of chemicals and pathogens to populations near sites where sludge is applied, and improved treatment techniques to make lower-risk biosolids. Resources are being redirected out of air quality (objective 1.1), drinking water research (objective 2.1), emerging risks including PPCPs (objective 8.3), and pollution prevention (objective 8.4), as well as from lower priorities within water quality, to support this effort.
- (+\$504,000 and +5.0 FTE) This increase reflects the Agency's effort to enhance its scientific workforce by attracting quality postdoctoral scientists and engineers into its research program.
 - (+\$323,020 and +3.1 FTE) Reflects a realignment of research support workyears from ecosystems protection (objective 8.1). There are no programmatic impacts.
 - (+\$183,960 and +1.8 FTE) This increase reflects realignment of EPA's pharmaceuticals and personal care products (PPCPs) intramural research program. Workyear and associated workforce costs will be moved from the Goal 8 (Sound Science) to aquatic stressors research in Goal 2. This realignment was conducted since the goal of this research is to provide information to determine if human health or ecological criteria are needed and to begin to evaluate the appropriate levels for any necessary criteria. There are no impacts resulting from this realignment.
 - (-\$439,460 and -4.3 FTE) This redirection of workyears from sediment research and habitat alteration research will support the Agency's Regional Scientist Program. The Agency maintains sufficient research programs in sediment and habitat alteration to meet its research objectives.
 - (-\$367,920 and -3.6 FTE) Workyears are being redirected from habitat alteration and water quality research to support two important initiatives. Two workyears are being redirected to provide research support to the Agency's efforts to develop an annual State of the Environment Report (objective 8.3). The others are being redirected as part of the Science Advisor's senior staff to promote effective partnerships with EPA Programs and Regions, assist them in their efforts to strengthen environmental science, and provide for timely and open communication on critical science matters. The Agency maintains sufficient research programs in habitat alteration and water quality to meet its research objectives.
 - (-\$306,600 and -3.0 FTE) Reflects a refocusing of workyears from related concentrated animal feeding operations (CAFOs) studies within water quality research to address uncertainties associated with determining and reducing the risks to human health of the production and application of treated wastewater sludge (biosolids) to land for use as fertilizers. Impacts to the losing program are minimal due to the overlapping nature of research on biosolids and CAFOs.
 - There are additional increases for payroll and cost of living for new and additional FTE.

GOAL: CLEAN AND SAFE WATER

OBJECTIVE: PROTECT WATERSHEDS AND AQUATIC COMMUNITIES

Annual Performance Goals and Measures

Watershed Protection

- In 2004 By FY 2005, Water quality will improve on a watershed basis such that 625 of the Nation's 2,262 watersheds will have greater than 80 percent of assessed waters meeting all water quality standards, up from 500 watersheds in 1998.
- In 2003 By FY 2003, Water quality will improve on a watershed basis such that 600 of the Nation's 2,262 watersheds will have greater than 80 percent of assessed waters meeting all water quality standards, up from 500 watersheds in 1998.
- In 2002 This measure reflects states' biennial reporting under CWA 305(b), and is not intended to be reported against again until the FY2003 reporting cycle.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	8-digit HUCs
Watersheds that have greater than 80% of assessed waters meeting all water quality standards.	510 (FY00)	600	625 (FY 05)	

Baseline: As of 1998 state reports, 500 watersheds had met the criteria for water quality improving on a watershed basis. For a watershed to be counted toward this goal, at least 25% of the segments in the watershed must be assessed within the past 4 years consistent with assessment guidelines developed pursuant to section 305(b) of the Clean Water Act. The unit of measure is 8-digit Hydrologic Unit Codes (HUCs).

State/Tribal Water Quality Standards

- In 2004 Assure that States and Tribes have effective, up-to-date water quality standards programs adopted in accordance with the Water Quality Standards regulation and the Water Quality Standards program priorities.
- In 2003 Assure that States and Tribes have effective, up-to-date water quality standards programs adopted in accordance with the Water Quality Standards regulation and the Water Quality Standards program priorities.
- In 2002 Assure that 25 States and 22 Tribes have effective, up-to-date water quality standards programs adopted in accordance with the Water Quality Standards regulation and the Water Quality Standards program priorities.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
States with new or revised water quality standards that EPA has reviewed and approved or disapproved and promulgated federal replacement standards.	25	20	20	States
Tribes with water quality standards adopted and approved (cumulative).	22	30	33	Tribes

Baseline: In 1999, fewer than 5% of tribes had water quality monitoring and assessment programs appropriate for their circumstances and were entering water quality data into EPA's national data systems. State water quality standards program reviews are under a 3-year cycle as mandated by the Clean Water Act under which all states maintain updated water quality programs. The performance measure of state submissions (above) thus represents a "rolling annual total" of updated standards acted upon by EPA, and so is neither cumulative nor strictly incremental. EPA must review and approve or disapprove state revisions to water quality standards within 60-90 days after receiving the state's package. As of this May EPA was overdue in approving or disapproving 38 new or revised standards from 21 states and tribes.

Protecting and Enhancing Estuaries

- In 2004 Restore and protect estuaries through the implementation of Comprehensive Conservation and Management Plans (CCMPs).
- In 2003 Restore and protect estuaries through the implementation of Comprehensive Conservation and Management Plans (CCMPs).
- In 2002 Restored and protected over 137,000 acres of estuary habitat through the implementation of Comprehensive Conservation and Management Plans (CCMPs).

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Acres of habitat restored and protected nationwide as part of the National Estuary Program. (annual)	137,710	86,000	25,000	Acres

Baseline: As of January 2000, it is estimated that 65% of priority actions initiated and 400,000 habitat acres preserved, restored, and/or created.

Gulf of Mexico

- In 2004 Assist the Gulf States in implementing watershed restoration actions in 14 priority impaired coastal river and estuary segments.
- In 2003 Assist the Gulf States in implementing watershed restoration actions in 14 priority impaired coastal river and estuary segments.
- In 2002 Assisted the Gulf States in implementing restoration actions by supporting the identification of place-based projects in 137 State priority coastal river and estuary segments.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Impaired Gulf coastal river and estuary segments implementing watershed restoration actions (incremental).	137	14	14	Segments

Baseline: There are currently 95 coastal watersheds at the 8-digit hydrologic unit code (HUC) scale on the Gulf coast. The Gulf of Mexico Program has identified 12 priority coastal areas for assistance. These 12 areas include 30 of the 95 coastal watersheds. Within the 30 priority watersheds, the Gulf States have identified 354 segments that are impaired and not meeting full designated uses under the States' water quality standards. 71 or 20% is the target proposed to reinforce Gulf State efforts to implement 5-year basin rotation schedules. The target of 71 is divided by 5 to achieve the goal for assistance provided in at least 14 impaired segments each year for the next 5 years.

Chesapeake Bay Habitat

- In 2004 Improve habitat in the Chesapeake Bay.
- In 2003 Improve habitat in the Chesapeake Bay.
- In 2002 Meeting the annual performance goal to improve habitat in the Bay requires adherence to commitments made by the Chesapeake 2000 agreement partners and monumental effort/resources from all levels of government (local, state, and a range of Federal agencies) and from private organizations/citizens.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Acres of submerged aquatic vegetation (SAV) present in the Chesapeake Bay. (cumulative)	85,252	86,000	87,000	Acres

Baseline: In 1985, 0% of wastewater flow had been treated by Biological Nutrient Removal. In 1989, 49 miles of migratory fish habitat was reopened. In 1984, there were 37,000 acres of submerged aquatic vegetation in the Chesapeake Bay. In 1988, voluntary IPM practices had been established on 2% of the lands in the Chesapeake Bay watershed.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Watersheds that have greater than 80% of assessed waters meeting all water quality standards.

Performance Database: The Watershed Assessment Tracking Environmental Results System (WATERS) is used to summarize water quality information at the watershed level. For purposes of this national summary, "watersheds" are equivalent to 8-digit hydrologic unit codes (HUCs), of which there are 2,262 nationwide. WATERS is a geographic information system that integrates many existing data management tools including the Storage and Retrieval (STORET) database, the Assessment database as well as a new water quality standards database. State Clean Water Act (CWA) 305(b) data is submitted every two years and many states provide

annual updates. [United States EPA (latest: August 2002) National Water Quality Inventory Report to Congress (305(b) report). Washington, DC: Office of Water. (841-R-02-001). This and prior reports (from 1992) available on the Internet: <http://www.epa.gov/305b/>]

Data Source: State CWA Section 305(b) reporting. The data used by the states to assess water quality and prepare its CWA Section 305(b) report include ambient monitoring results from multiple sources (state, United States Geological Survey (USGS), volunteer, academic) as well as predictive tools like water quality models. States compile diverse data to support water quality assessments; EPA uses the data to present a snap-shot of water quality as reported by the states, but does not use it to report trends in water quality. EPA's Office of Water and Office of Research and Development have established a monitoring and design team that is working with states on a 3 to 5-year project to recommend a design for a national probability-based monitoring network that could be used to provide both status and trends in water quality at a state and national level. Future data will be accompanied by quality assurance plans, as part of the State's Assessment Methodology, and data submitted to the OW database, STORET, will have the necessary accompanying metadata.

Methods, Assumptions and Suitability: States employ various analytical methods of data collection, compilation, and reporting including: 1) Direct water samples of chemical, physical, and biological parameters; 2) Predictive models of water quality standards attainment; 3) Probabilistic models of pollutant sources; and 4) Compilation of data from volunteer groups, academic interests and others. EPA supported models include BASINS, QUAL2E, AQUATOX, and CORMIX. Descriptions of these models and instructions for their use can be found at www.epa.gov/OST/wqm/. The standard operating procedures and deviations from these methods for data sampling and prediction processes are stored by states in the STORET database. EPA aggregates state data by watershed (as described above) to generate the national performance measure. State provided data describe attainment of designated uses in accordance with state water quality standards and thus represent a direct measure of performance. State CWA Section 305(b) data are suitable for providing a snapshot of the ambient water quality conditions that exist across the nation; however, nationally aggregated data are currently not suitable for year-to-year comparisons. As states update their monitoring programs to include probabilistic monitoring, we will be able to do nationally aggregated, year-to-year comparisons.

QA/QC Procedures: QA/QC of data provided by states pursuant to individual state assessments (under CWA Section 305(b)) is dependent on individual state procedures. Numerous system level checks are built into WATERS based upon the business rules associated with the water quality assessment information. States are then given the opportunity to review the information in WATERS to ensure it accurately reflects the data that they submitted. Detailed data exchange guidance and training are also provided to the states. Sufficiency threshold for inclusion in this measure requires that 20% of stream miles in an 8-digit HUC be assessed. The Office of Water Quality Management Plan (QMP), renewed every five years, was approved in July 2001. EPA requires that each organization prepare a document called a quality management plan (QMP) that: documents the organization's quality policy; describes its quality system; and identifies the environmental programs to which the quality system applies. This document is the quality management plan for the entire EPA Office of Water. It describes the quality system used by the Office of Water and applies to all environmental programs within the

Office of Water and to any activity within those programs that involves the collection or use of environmental data.

Data Quality Review: Numerous independent reports have cited that weaknesses in monitoring and reporting of monitoring data undermine EPA's ability to depict the condition of the Nation's waters and to support scientifically-sound water program decisions. The most recent reports include the 1998 *Report of the Federal Advisory Committee on the Total Maximum Daily Load (TMDL) Program*¹, the March 15, 2000 General Accounting Office report *Water Quality: Key Decisions Limited by Inconsistent and Incomplete Data*¹, and the 2001 National Academy of Sciences Report *Assessing the TMDL Approach to Water Quality Management*.¹

In response to these evaluations, EPA has been working with states and other stakeholders to improve: 1) data coverage, so that state reports reflect the condition of all waters of the state; 2) data consistency to facilitate comparison and aggregation of state data to the national level; and 3) documentation so that data limitations and discrepancies are fully understood by data users. First, EPA enhanced two existing data management tools (STORET and the Assessment Database) so that they include documentation of data quality information. Second, EPA has developed a GIS tool called WATERS that integrates many databases including STORET, the Assessment database, and a new water quality standards database. These integrated databases facilitate comparison and understanding of differences among state standards, monitoring activities, and assessment results. Third, EPA and states have developed a guidance document: *Consolidated Assessment and Listing Methodology - a Compendium of Best Practices*¹ (released on the Web July 31, 2002 at www.epa.gov/owow/monitoring/calm.html) intended to facilitate increased consistency in monitoring program design and the data and decision criteria used to support water quality assessments.

And fourth, the Office of Water (OW) and EPA's regional offices have developed the *Elements of a State Water Monitoring and Assessment Program*, (August 2002) which is currently under review by our state partners. This guidance describes ten elements that each state water quality-monitoring program should contain and proposes time-frames for implementing all ten elements.

Data Limitations: Data are not representative of comprehensive national water quality assessments because states do not yet employ a monitoring design that characterizes all waters in each reporting cycle. States do not use a consistent suite of water quality indicators to assess attainment with water quality standards. For example, indicators of aquatic life use support range from biological community assessments to levels of dissolved oxygen to concentrations of toxic pollutants. These variations in state practices limit how the assessment reports provided by states can be used to describe water quality at the national level. States, territories and tribes collect data and information on only a portion of their waterbodies. There are differences among their programs, sampling techniques, and standards.

State assessments of water quality may include uncertainties associated with derived or modeled data. Differences in monitoring designs among and within states prevent the agency from aggregating water quality assessments at the national level with known statistical confidence. States, territories, and authorized tribes monitor to identify problems and typically lag times between data collection and reporting can vary by state.

Error Estimate: No error estimate is available for this data.

New/Improved Data or Systems: The Office of Water is currently working with states, tribes and other Federal agencies to improve the database that supports this management measure by addressing the underlying methods of monitoring water quality and assessing the data. Also, the Office of Water is working with partners to enhance monitoring networks to achieve comprehensive coverage of all waters, use a consistent suite of core water quality indicators (supplemented with additional indicators for specific water quality questions), and document key data elements, decision criteria and assessment methodologies in electronic data systems. The Office of Water is using a variety of mechanisms to implement these improvements including data management systems, guidance, stakeholder meetings, training and technical assistance, program reviews and negotiations.

EPA is working with states to enhance their monitoring and assessment programs, with a particular emphasis on the probabilistic approach. These enhancements, along with improving the quality and timeliness of data for making watershed-based decisions, will greatly improve the ability to use state assessments in consistently portraying national conditions and trends. Specific state refinements include developing rigorous biological criteria to measure the health of aquatic communities (and attainment with the aquatic life use) and designing probability-based monitoring designs to support statistically-valid inferences about water quality. The EPA Environmental Monitoring and Assessment Program (EMAP) design team has been instrumental in helping states design the monitoring networks and analyze the data. Initial efforts have focused on streams, lakes and coastal waters. Wetlands and large rivers will be targeted next. States are implementing these changes incrementally and in conjunction with traditional targeted monitoring. At last count 16 states have adopted probability-based monitoring designs, several more are evaluating them, and all but 10 are collaborating in an EMAP study.

References: Aggregate national maps and state and watershed specific data for this measurement are displayed numerically and graphically in the WATERS database. WATERS is publicly accessible at www.epa.gov/waters. State monitoring data is contained in the STORET system, also publicly available at www.epa.gov/storet. Links to user guides and descriptions of the databases can be found at the web sites. The Office of Water Quality Management Plan (July 2001) is available on the Intranet at <http://intranet.epa.gov/ow/infopolicy.html>.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: States with new or revised water quality standards that EPA has reviewed and approved or disapproved, and promulgated Federal replacement standards.

Performance Database: EPA maintains files on all approval/disapproval actions on new and revised state water quality standards and on promulgated Federal replacement standards. EPA Headquarters and regional personnel work together to maintain a manual record of state actions and EPA decisions. We also maintain in electronic format the text of state standards in a publicly-accessible Water Quality Standards Repository online at <http://www.epa.gov/waterscience/standards/wqslibrary/>.

There is also an Assessment Database, which tracks the water quality standard (WQS) attainment status of the Nation's surface waters (not publicly available). The Watershed Assessment Tracking Environmental Results System (WATERS) database is a GIS tool that maps this information. WATERS is used to summarize water quality information at the watershed level. For purposes of this national summary, "watersheds" are equivalent to 8-digit hydrologic unit codes (HUCs), of which there are 2,262 nationwide. WATERS is publicly accessible at www.epa.gov/waters.

Data Source: EPA Regional Offices.

Methods, Assumptions and Suitability: Information is collected manually, and the performance measure is a simple mathematical operation.

QA/QC Procedures: EPA headquarters is responsible for compiling the summary reports and querying EPA's regional offices as needed to resolve inconsistencies. EPA's regional offices are responsible for collecting any additional data needed from their client states and reporting the data to Headquarters.

Data Quality Review: EPA Headquarters and its regional offices annually review the WQS information to identify and resolve data issues.

New/Improved Data or Systems: EPA will continue to implement high priority elements of the long-term strategy for water quality standards and criteria, including efforts to improve electronic access to water quality standards information.

Data Limitations: N/A

Error Estimate: No error estimate is available for this data.

New/Improved Data or Systems: N/A

References: The exact text of state and Tribal standards is available on the Internet at <http://www.epa.gov/waterscience/standards/wqslibrary/>.

FY 2004 Performance Measure: Cumulative number of tribes with water quality standards adopted and approved.

Performance Database: EPA headquarters maintains files on all Tribal water quality standards. EPA's regional offices submit summary reports based on these files.

Data Source: EPA's regional offices

Methods, Assumptions and Suitability: Information is collected manually, and the performance measure is a simple mathematical operation.

QA/QC Procedures: EPA headquarters is responsible for compiling the data, and querying EPA's regional offices as needed. EPA's regional offices are responsible for collecting any additional data from their client tribes and reporting the data to HQ.

Data Quality Review: EPA headquarters and its regional offices annually review the information to identify and resolve data issues.

New/Improved Data or Systems: N/A

Data Limitations: N/A

Error Estimate: No error estimate is available for this data.

References: The exact text of state and Tribal standards is available on the Internet at <http://www.epa.gov/waterscience/standards/wqslibrary/>.

FY 2004 Performance Measure: Acres of habitat restored and protected nationwide since 1987 as part of the National Estuary Program (NEP).

Performance Database: The Office of Wetlands Oceans and Watersheds has developed a standardized format for data reporting and compilation, defining habitat protection and restoration activities and specifying habitat categories. We have also designed a web page that highlights habitat loss/alteration in an educational fashion with graphics and images as well as the number of habitat acres protected and restored by habitat type, based on specific NEP reports. This enables EPA to provide a visual means of communicating NEP performance and habitat protection and restoration progress to a wide range of stakeholders and decision-makers.

Data Source: NEP documents such as annual work plans (which contain achievements made in the previous year) and annual progress reports are used, along with other implementation tracking materials, to document the number of acres of habitat restored and protected. EPA then aggregates the data provided by each NEP to arrive at a national total for the entire Program. EPA is confident that the data presented are as accurate as possible based on review and inspection by each NEP prior to reporting to EPA. In addition, EPA conducts regular reviews of NEP implementation to help ensure that information provided in these documents is generally accurate, and progress reported is in fact being achieved.

Methods, Assumptions and Suitability: Measuring the number of acres of habitat restored and protected may not directly correlate to improvements in the health of the habitat reported, or of the estuary overall, but it is a common substitute. We recognize that habitat acreage does not necessarily correspond one-to-one with habitat quality, nor does habitat (quantity or quality) represent the only indicator of ecosystem health. Nevertheless, habitat acreage serves as an adequate surrogate, and is a suitable measure of on-the-ground progress made toward EPA's annual performance goal on habitat protection and restoration in the NEP.

QA/QC Procedures: Primary data are prepared by the staff of the NEP based on their own reports and from data supplied by other partnering agencies/organizations (that are responsible

for implementing the action resulting in habitat protection and restoration). The NEP staff has been requested to follow guidance provided by EPA to prepare their reports and to verify the numbers. EPA then confirms that the national total accurately reflects the information submitted by each program. The Office of Water Quality Management Plan (QMP), renewed every five years, was approved in July 2001. EPA requires that each organization prepare a document called a quality management plan (QMP) that: documents the organization's quality policy; describes its quality system; and identifies the environmental programs to which the quality system applies. This document is the quality management plan for the entire EPA Office of Water. It describes the quality system used by the Office of Water and applies to all environmental programs within the Office of Water and to any activity within those programs that involves the collection or use of environmental data.

Data Quality Review: No audits or quality reviews conducted yet.

Data Limitations: It is still early to determine the full extent of data limitations. Current data limitations include: information that may be reported inconsistently (based on different interpretations of the protection and restoration definitions), acreage that may be miscalculated or misreported, and acreage that may be double counted (same parcel may also be counted by partnering/implementing agency or need to be replanted multiple years). In addition, measuring the number of acres of habitat restored and protected may not directly correlate to improvements in the health of the habitat reported (particularly in the year of reporting), but is rather a measure of on-the-ground progress made by the NEPs.

Error Estimate: No error estimate is available for this data.

New/Improved Data or Systems: We are examining the possibility of geo-referencing the data in a geographic information system (GIS).

References: Aggregate national and regional data for this measurement, as well as data submitted by the individual National Estuary Programs, is displayed numerically, graphically, and by habitat type in the Performance Indicators Visualization and Outreach Tool (PIVOT). PIVOT data is publicly available at <http://www.epa.gov/owow/estuaries/pivot/overview/intro.htm>. The Office of Water Quality Management Plan (July 2001) is available on the Intranet at <http://intranet.epa.gov/ow/infopolicy.html>

FY 2004 Performance Measure: Impaired Gulf of Mexico coastal river and estuary segments implementing watershed restoration actions.

Performance Database: Internal Gulf of Mexico Program Office (GMPO) Project Tracking Database containing fields for 8-digit Hydrologic Unit Code (HUC) and segment numbers for location of restoration actions. The data are based on the States' Clean Water Act (CWA) Section 303(d) List of impaired waterbodies. Data have been tracked in the GMPO database since 1993. In particular, HUCs and segment numbers for locations of restoration actions have been tracked since FY 2000, allowing for 5-year trend calculations by FY 2004.

Data Source: State Water Quality Agencies supply EPA's Office of Water lists of waters reported under CWA Section 303(d). These lists identify the locations of individual waterbodies that are impaired and do not, or are not expected, to meet water quality standards after implementation of water pollution controls. Many states also submit GIS coverages and/or maps that outline the spatial extent of their listed waters. EPA codes the spatial extent onto National Hydrography Dataset (NHD) Waterbody Reaches to create NHD Waterbody shapefiles. Reaches in the shapefiles are attributed with CWA Section 303(d) identifiers supplied by the states. There is a numeric code that uniquely identifies a reach in NHD, consisting of two parts: the first eight digits are the hydrologic unit code of the cataloging unit in which the reach is located; the last six digits are a sequentially, arbitrarily-assigned number. The waterbody shapefiles are sent to each state for review and comment. The format of the reviewed data is state dependent. In some cases, modifications are noted by the State and then corrections are made. The shapefiles also identify those impaired waterbodies, as reported in the CWA Section 303 (d) List, affected by restoration actions undertaken by the Gulf of Mexico Program and its partnership.

Methods, Assumptions and Suitability: One assumption is that cumulative watershed restoration actions in impaired segments will result in the removal of the segment from the State 303(d) List and the waterbody will no longer be listed for the identified impairment within a 10 year time frame. Another assumption is that data used to list the waterbody as impaired is sufficient and current.

QA/QC Procedures: The Gulf of Mexico Program Office cross-checks coastal river and estuary segments in its database with the States' CWA Section 303(d) list and with USGS topographic quadrangle maps. USGS maps are compiled to meet National Map Accuracy Standards.

Data Quality Reviews: States' list of impaired waters is the (CWA Section 303) (d) list. EPA is required by the CWA to review and approve or disapprove the list. If the list is not submitted to EPA, or is incomplete, EPA must develop the list for the State. The list is also subject to public review and comment. EPA believes that the data are accurate and reliable. State lists form the basis for State and EPA actions to address the impaired waters.

Data Limitations: Potential data limitations may include: (1) susceptibility to external factors that make it difficult to attribute trends in performance data to program effectiveness or (2) incomplete or missing data.

Error Estimate: By the end of FY 2004 and in coordination with updated State CWA Section 303(d) Lists, data uncertainty will be evaluated to determine the impact on the performance measure.

New/Improved Data or Systems: Based on data and information collected and recommendations from an Ad Hoc Committee Review, the Gulf of Mexico Program Office plans to more narrowly focus technical and financial assistance to identify specific impaired segments and restore them to meet water quality standards. Using a Strategic Assessment process

involving Federal, State and local representatives the process will provide direct linkage between the restoration actions funded by GMPO and improved water quality.

References:

1998 CWA Section 303(d) Lists

2000 CWA Section 303(d) Lists

Draft Strategic Management Plan for the Gulf of Mexico Program 2000-2005

FY 2004 Gulf of Mexico Program Funding Guidance

FY 2004 Performance Measure: Acres of submerged aquatic vegetation (SAV) present in the Chesapeake Bay.

Performance Database: The SAV distribution data files are located at <http://www.vims.edu/bio/sav/savdata.html> and also at the EPA Chesapeake Bay Program Office (contact Nita Sylvester at sylvester.nita@epa.gov)

Data Source: Virginia Institute of Marine Sciences (via an EPA Chesapeake Bay Program grant to Virginia Institute of Marine Sciences)

Methods, Assumptions and Suitability: The SAV survey is a general monitoring program, conducted to optimize precision and accuracy in characterizing annually the status and trends of SAV in tidal portions of the Chesapeake Bay. The general plan is to follow fixed flight routes over shallow water areas of the Bay to comprehensively survey all tidal shallow water areas of the Bay and its tidal tributaries. Non-tidal areas are omitted from the survey. SAV beds less than 1 square meter are not included due to the limits of the photography and interpretation. Annual monitoring began in 1978 and is ongoing. Methods are described in the Quality Assurance Project Plan (QAPP) on file for the EPA grant and at the VIMS web site (www.vims.edu/bio/sav/).

QA/QC Procedures: Quality assurance project plan for the EPA grant to the Virginia Institute of Marine Sciences describes data collection, analysis, and management methods. This is on file at the EPA Chesapeake Bay Program Office. The VIMS web site at www.vims.edu/bio/sav/ provides this information as well. Federal Geographic Data Committee (refers to the Federal standards for metadata developed by this committee) (FGDC) metadata are included with the data set posted at the VIMS web site.

Data Quality Reviews: This indicator has undergone extensive technical and peer review by state, Federal and non-government organization partner members of the SAV workgroup and the Living Resources subcommittee. Data collection, data analysis and QA/QC are conducted by the principal investigators/scientists. The data are peer reviewed by scientists on the workgroup. Data selection and interpretation, the presentation of the indicator, along with all supporting information and conclusions, are arrived at via consensus by the scientists in collaboration with

the resource manager members of the workgroup. The workgroup presents the indicator to the subcommittee where extensive peer review by Bay Program managers occurs.

Data Limitations: Due to funding constraints, there were no surveys in the years 1979-1983 and 1988. Spatial gaps in 1999 occurred due to hurricane disturbance and subsequent inability to reliably photograph SAV. Spatial gaps in 2001 occurred due to post-nine-eleven flight restrictions near Washington D.C.

Error Estimate: No error estimate is available for this data.

New/Improved Data or Systems: Some technical improvements (e.g., photo interpretation tools) were made over the 22 years of the annual SAV survey in Chesapeake Bay.

References: See bibliography at www.vims.edu/bio/sav/.

Coordination with Other Agencies

Protecting and restoring watersheds will depend largely on the direct involvement of many Federal agencies and state, Tribal and local governments who manage the multitude of programs necessary to address water quality on a watershed basis. Federal agency involvement will include USDA (Natural Resources Conservation Service, Forest Service, Agriculture Research Service), Department of the Interior (Bureau of Land Management, Office of Surface Mining, United States Geological Survey (USGS), Fish and Wildlife, and the Bureau of Indian Affairs), National Oceanographic and Atmospheric Administration (NOAA), Department of Transportation, and the Department of Defense (Navy, Army Corps of Engineers). At the state level, agencies involved in watershed management typically include departments of natural resources or the environment, public health agencies, and forestry and recreation agencies. Locally, numerous agencies are involved, including Regional planning entities such as councils of governments, as well as local departments of environment, health and recreation who frequently have strong interests in watershed projects.

Effectively implementing successful comprehensive management plans for the estuaries in the NEP depends on the cooperation, involvement, and commitment of Federal and state agency partners that have some role in protecting and/or managing those estuaries.

Regarding vessel discharges, EPA will continue working closely with the Coast Guard on addressing ballast water discharges domestically, and with the interagency work group and United States delegation to Marine Environmental Protection Committee (MEPC) on international controls. EPA will continue to work closely with the Coast Guard, Alaska and other states, and the International Council of Cruise Lines regarding regulatory and non-regulatory approaches to managing wastewater discharges from cruise ships. EPA will also continue to work with the Coast Guard on updating vessel sewage discharge standards and with the Navy on developing Uniform National Discharge Standards for Armed Forces vessels. Regarding dredged material management, EPA will continue to work closely with the Corps of Engineers on standards for permit review, as well as site selection/designation and monitoring.

The Chesapeake Bay Program has a Federal Agencies Committee, chaired by EPA, which was formed in 1984 and has met regularly ever since. There are currently over 20 different Federal agencies actively involved with the Bay Program through the Federal Agencies Committee. The Federal agencies have worked together over the past decade to implement the commitments laid out in the 1994 *Agreement of Federal Agencies on Ecosystem Management in the Chesapeake Bay* and the 1998 *Federal Agencies Chesapeake Ecosystem Unified Plan (FACEUP)*. In the past two years, the Federal Agencies Committee has been focusing on how its members can help to achieve the 104 commitments contained in the *Chesapeake 2000* agreement adopted by the Chesapeake Bay Program in June 2000. Through this interagency partnership Federal agencies have contributed to some major successes, such as the United States Forest Service helping to meet the year 2010 goal to restore 2,010 miles of riparian forest buffers eight years early; the National Park Service leading the effort to restore over 500 miles of water trails three years early; and the United States Fish and Wildlife Service working to try to meet our fish passage goal of reopening 1,357 miles of currently blocked river habitat by 2003. Also in 2003, through the Federal Agencies Committee, the members will be looking at their agency budgets and other programs to try to leverage maximum benefit to the state, private and Federal efforts protect and restore the Bay.

Key to the continued progress of the Gulf of Mexico Program (GMP) is the voluntary, stakeholder-driven, multi-agency approach being used. Established in 1988, the Gulf of Mexico Program is designed to assist the Gulf States and stakeholders in developing a regional, ecosystem-based framework for restoring and protecting the Gulf of Mexico. The strategic assessment framework is developed through coordinated Gulf-wide as well as priority area-specific efforts with the five Gulf States, 15 Federal agencies, non-governmental organizations, and citizens who are members of the Gulf Program's Policy Review Board, subcommittees, and workgroups. To achieve the Program's environmental objectives, the partnership must target specific Federal, state, local, and private programs, processes, and financial authorities in order to leverage the resources needed to support state and community actions.

Government-wide, Federal agencies share the goal of achieving a net increase of 100,000 acres of wetlands per year by FY 2005, increasing wetlands functions and values, and implementing a fair and flexible approach to wetlands regulations.

Research

EPA has developed joint research initiatives with the National Oceanic Atmospheric Administration (NOAA) and the United States Geological Survey (USGS) for linking monitoring data and field studies information with available toxicity data and assessment models for developing sediment criteria.

In addition, under the Endangered Species Act, EPA is required to consult with the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) on actions that may affect endangered species. EPA has developed a draft strategy for research and development of criteria for endangered species that is now being reviewed. As part of implementation, EPA is coordinating its research with the Biological Research Division of the USGS.

The issue of eutrophication, hypoxia, and harmful algal blooms (HABs) is a priority with the Committee on Environment and Natural Resources (CENR). An interagency research strategy for pfiesteria and other harmful algal species was developed in 1998, and EPA is continuing to implement that strategy. EPA is working closely with NOAA on the issue of nutrients and risks posed by HABs. This CENR sub-committee is also coordinating the research efforts among Federal agencies to assess the impacts of nutrients and hypoxia in the Gulf of Mexico.

Finally, EPA is initiating collaboration with the USDA, CDC and other Agencies to develop a better understanding of the sources of pathogenic stressors and potential strategies for their control.

Statutory Authorities

Clean Water Act (CWA)

Safe Drinking Water Act (SDWA)

Marine Protection, Research and Sanctuaries Act (MPRSA)

Ocean Dumping Ban Act of 1988

Shore Protection Act of 1988

Clean Vessel Act

Water Resources Development Act (WRDA)

Marine Plastic Pollution, Research and Control Act (MPPRCA) of 1987

National Invasive Species Act of 1996

Coastal Wetlands Planning, Protection, and Restoration Act of 1990

North American Wetlands Conservation Act

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

Toxic Substances Control Act (TSCA)

Resource Conservation and Recovery Act (RCRA)

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

Clean Air Act Amendments (CAA)

Pollution Prevention Act (PPA)

Estuaries and Clean Waters Act of 2000

Certain Alaskan Cruise Ship Operations (PL 106-554)

Research

Clean Water Act (CWA)

Safe Drinking Water Act (SDWA)

Marine Protection, Research and Sanctuaries Act (MPRSA)

Ocean Dumping Ban Act of 1988

Shore Protection Act of 1988

Clean Vessel Act

Water Resource Development Act (WRDA)

Marine Plastic Pollution, Research and Control Act (MPPRCA) of 1987

National Invasive Species Act of 1996

Coastal Wetlands Planning, Protection, and Restoration Act of 1990

North American Wetlands Conservation Act

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

Toxic Substances Control Act (TSCA)

Endangered Species Act

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Clean and Safe Water

Objective: Reduce Loadings and Air Deposition.

By 2005, reduce pollutant loadings from key point and nonpoint sources by at least 11 percent from 1992 levels. Air deposition of key pollutants will be reduced to 1990 levels.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Loadings and Air Deposition	\$2,040,199.9	\$1,630,434.4	\$1,273,743.2	(\$356,691.2)
Environmental Program & Management	\$152,742.1	\$134,461.0	\$139,277.0	\$4,816.0
Science & Technology	\$5,766.0	\$5,496.6	\$5,966.2	\$469.6
State and Tribal Assistance Grants	\$1,881,691.8	\$1,490,476.8	\$1,128,500.0	(\$361,976.8)
Total Workyears	826.5	866.6	865.2	-1.4

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Congressionally Mandated Projects	\$241,582.9	\$0.0	\$0.0	\$0.0
Disadvantaged Communities	\$4,350.8	\$4,481.3	\$4,677.3	\$196.0
Effluent Guidelines	\$22,773.4	\$23,010.3	\$23,632.4	\$622.1
Facilities Infrastructure and Operations	\$11,335.7	\$11,869.4	\$11,267.3	(\$602.1)
Homeland Security-Critical Infrastructure Protection	\$1,500.0	\$0.0	\$0.0	\$0.0

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Legal Services	\$2,923.1	\$3,170.7	\$3,280.3	\$109.6
Management Services and Stewardship	\$5,710.6	\$6,192.8	\$5,282.3	(\$910.5)
NPDES Program	\$40,991.0	\$41,720.8	\$44,375.7	\$2,654.9
National Nonpoint Source Program Implementation	\$16,488.6	\$16,908.6	\$17,628.0	\$719.4
Planning and Resource Management	\$0.0	\$0.0	\$641.2	\$641.2
Recreational Water and Wet Weather Flows Research	\$5,635.8	\$5,496.6	\$5,966.2	\$469.6
Regional Management	\$494.2	\$490.7	\$951.6	\$460.9
State Nonpoint Source Grants	\$237,476.8	\$238,476.8	\$238,500.0	\$23.2
Wastewater Management/Tech Innovations	\$8,840.1	\$9,073.7	\$9,485.2	\$411.5
Water Infrastructure: Alaska Native Villages	\$40,000.0	\$40,000.0	\$40,000.0	\$0.0
Water Infrastructure: Clean Water State Revolving Fund (CW-SRF)	\$1,350,000.0	\$1,212,000.0	\$850,000.0	(\$362,000.0)
Water Quality Infrastructure Protection	\$16,783.7	\$17,239.3	\$18,055.7	\$816.4

FY 2004 Request

NPDES

A key element of the Agency's effort to achieve its overarching goal of clean and safe water is the reduction of pollutant discharges from point sources. Under the National Pollutant Discharge Elimination System (NPDES) program (which includes NPDES permits covering municipal and industrial discharges, urban wet weather, large animal feeding operations, mining, the pretreatment program for non-domestic wastewater discharges into municipal sanitary sewers, and biosolids management controls), specific requirements are set for pollutants discharged from point sources into waters of the United States. These requirements are designed to ensure that national technology based standards (effluent limitations and guidelines), which generally require achievable pollutant reductions, and water quality based requirements, which require greater controls in locations where water quality standards would not otherwise be met, are achieved.

In recent years the authorized state NPDES programs have been the object of an increasing number of withdrawal petitions, citizen lawsuits, and independent reviews indicating potential noncompliance with Federal Clean Water Act (CWA) requirements, as well as issues regarding compliance with other Federal authorities (e.g., Endangered Species Act (ESA)). These challenges involve nearly a third of the authorized states. In addition, a substantial number of states are experiencing difficulty with the timely issuance of NPDES permits. The national problem with permit backlogs was labeled a material weakness under Federal Managers' Financial Integrity Act (FMFIA) for the past few years; however, actions taken by EPA and states to address the backlog have resulted in it being reduced to an Agency weakness. Recently completed permit quality reviews (PQRs) have also provided clear indications that the quality of those permits that are being issued is not what it should be to ensure that permits include requirements that result in achievement of water quality standards. Failure to address these problems of timeliness and quality may lead to additional withdrawal petitions or lawsuits against state NPDES programs.

Providing states with continuing financial and technical support is essential to achieving pollutant loadings reductions and the overall goal of clean and safe water. EPA, in partnership with the states, will ensure that facilities required to have permits that are effective and include all conditions needed to ensure water quality protection through reductions in pollutant loadings are covered by current permits. For this purpose the Agency requests an additional \$700,000 in FY 2004. These resources, when coupled with additional funds in CWA Section 106 grants, should result in improvements in program performance in areas such as issuance of quality permits and addressing storm water and other expanding wet weather program areas, such as combined sewer overflows/sanitary sewer overflows (CSOs/SSOs). Additional resources will also enable the program to establish baselines for improved program performance and more direct indications of the effect of the program on water quality. The Agency will continue its efforts to promote innovation in the NPDES and pretreatment programs. In addition, the Agency will continue to work with states to provide assistance when needed to the Nation's 13,000 small publicly-owned wastewater treatment plants to help them comply with their permits.

During FY 2004, the Agency will continue implementing the regulations to control storm water from municipalities, industries and construction sources, to have approximately 900 CSO communities covered by NPDES permits and implementing controls based on EPA's CSO policy and to clarify capacity, management, operation and maintenance, and reporting requirements on unauthorized SSOs discharging into United States waters.

The Agency is implementing a multi-year strategy to address how it will minimize environmental and public health impacts from animal feeding operations (AFOs) over the next decade and beyond. EPA is working with states to develop and issue permits for all large concentrated animal feeding operations (CAFOs) and has finalized its update of 25 year old regulations covering CAFO permitting. These permits are issued by EPA and the states. In addition, EPA will work with states and the United States Department of Agriculture (USDA) to assist all AFO facilities in developing comprehensive nutrient management plans.

Technical Assistance

EPA will continue efforts to deliver decision support tools and alternative, less costly wet weather flow control technologies for use by local decision makers involved in community-based watershed management. Wet weather flow discharges can pose significant risk to both human health and downstream ecosystems. Effective watershed management strategies and guidance for wet weather flow dischargers are key priority areas remaining to assure clean water and safe drinking water. To that end, the Agency will again support wet weather-related applications for grants authorized under the CWA Section 104(b) (3) (funded under objective 2) for research, investigations, training, demonstrations and studies aimed at reducing water pollution.

The Agency also provides technical assistance to support community needs. These efforts include dissemination of information on wastewater technologies, enhancement of community awareness of financing programs and assistance with program development activities. These include, with Office of Research and Development (ORD) support, the operation of Environmental Technology Verification Centers to address control technologies for wet weather flows and source water quality protection including decentralized wastewater treatment systems. The agency also provides community technical assistance through our sponsorship and work with the Rural Community Assistance Program and the National Small Flows Clearinghouse. The water efficiency program provides information on the beneficial impacts of municipal water efficiency, and helps communities and our partners (including the lodging industry, office building managers, and educational institutions) become aware of, and reduce, their rates of water use, thereby saving water, conserving energy, and reducing chemical usage.

EPA does not regulate septic, or "onsite decentralized wastewater," systems. However, poorly-sited and maintained systems pose a risk to drinking water wells and surface water, drinking water supplies, home basements, yards, shellfish beds, aquatic life and the supporting ecosystem. Properly managed septic systems are an important part of the Nation's wastewater treatment infrastructure, and the water program is addressing the challenges of effective system management through publication, in calendar year 2003, of voluntary management guidelines that states may adopt and municipalities may implement.

Effluent Guidelines

The Agency will take final action on effluent guidelines for three industrial sectors: (i) meat and poultry products, (ii) construction and development, and (iii) aquatic animal production. These guidelines will then be incorporated into NPDES permits as they are issued or reissued by the NPDES permitting authority. EPA will continue to develop the chemical criteria protective of aquatic life and human health which complement the effluent guidelines used in the NPDES program.

EPA is developing regulations under Section 316(b) of the CWA to ensure that the location, design, construction and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. These regulations are unique in that they apply to the intake of water and not the discharge. A major goal of this program is to

minimize the impingement and entrainment of fish and other aquatic organisms as they are drawn into a facility's cooling water intake. Impingement occurs when fish and other aquatic life are trapped against cooling water intake screens. Entrainment occurs when aquatic organisms, eggs and larvae are drawn into a cooling system, through the heat exchanger, and then pumped back out. In FY 2004, EPA will continue to make progress to provide this aquatic protection for a group of facilities that employ a cooling water intake structure where flow levels remain a concern for aquatic organisms (referred to as Phase 3 regulations). Phase 3 regulations could control electricity-generating facilities, chemical manufacturing facilities, pulp and paper manufacturing facilities, and petroleum product manufacturing facilities.

Financial Assistance

EPA provides financial assistance through the Clean Water State Revolving Fund (CWSRF) program for the construction of wastewater treatment facilities and implementation of nonpoint source (NPS) and estuarine management plans. For FY 2004, the Agency is requesting \$850 million for the CWSRF. In addition, the Administration plans to extend Federal capitalization by providing \$850 million per year through 2011. This is a significant increase over the current funding plan. Federal capitalization of the 51 state funds is critical to support point and NPS programs to reduce pollutant discharge levels. The strategic use of SRF funds and the effective and efficient operation of state programs are critical to the success of the national SRF programs.

This continuing investment in the CWSRF is expected to increase the long-term target revolving level of the CWSRF from \$2 billion per year to \$2.8 billion per year, a 40 percent increase. More than \$19 billion has already been provided to capitalize the CWSRF, over twice the original CWA authorized level of \$8.4 billion. Total CWSRF funding available for loans since 1987, reflecting loan repayments, state match dollars, and other funding sources, is approximately \$42.4 billion, of which more than \$38.7 billion has been provided to communities as financial assistance. As of July 2002, \$3.7 billion is being readied for loans.

The CWSRF and the Drinking Water State Revolving Fund (DWSRF) are important elements of the Nation's substantial investment in sewage treatment and drinking water systems, which provides Americans with significant benefits in the form of reduced water pollution and safe drinking water. The SRFs continue to play a key role as communities address their aging infrastructure, and new treatment needs. In a June 2000 study, EPA estimated that without improved wastewater treatment, population growth, by the year 2016, will produce effluent loading similar to those of the mid-1970s. The Agency is committed to fostering a constructive dialogue on the best approaches to assuring that critical water infrastructure is maintained and improved so that Americans can enjoy clean and safe water for many years to come. The Agency will work toward a strategic approach to funding that will maximize health and environmental benefits and support sustainable wastewater infrastructure. In support of this effort, the Agency is continuing to broaden its Clean Watersheds Needs Survey to include more location specific and NPS pollution controls information, and to support the states in making CSO and SSO project funding decisions.

More than 70,000 homes in Indian country have inadequate or nonexistent wastewater treatment. EPA and the Indian Health Service estimate Tribal wastewater infrastructure needs exceed \$650 million. To improve public health and water quality in Indian Country, the Agency proposes to increase the CWSRF set-aside for tribes from ½ to 1 ½ percent.

The Agency is requesting a one-year extension of authority provided in the 1996 Safe Drinking Water Act (SDWA) Amendments, which allow states to transfer an amount equal up to 33 percent of their Drinking Water State Revolving Fund (DWSRF) grants to their CWSRF programs, or an equivalent amount from their CWSRF program to their DWSRF program. The transfer provision gives states flexibility to address the most critical demands in either program at a given time. The statutory transfer provision expired September 30, 2002.

The Agency also requests \$40 million for wastewater and water infrastructure projects in Alaska Native Villages, provides grant assistance for environmental protection for Alaska Native Villages and Indian tribes, and manages grant assistance for 1,076 water and wastewater projects with total appropriations of more than \$3.8 billion through FY 2002.

Nonpoint Source Pollution

According to states, pollution from NPSs remains the single largest cause of water pollution, with agriculture identified as a leading cause of impairment in 48 percent of the river miles surveyed. In order to meet this objective and restore and maintain water quality, significant loading reductions from NPSs must be achieved. Because EPA does not have direct authority to regulate NPS under the CWA, effective state NPS programs, along with consistent coordination among Federal agencies with related polluted responsibilities, are critical to our overall success. EPA will continue to encourage states to provide CWSRF funding for high priority projects that address NPS and estuary issues. As of July 2002, 30 states had invested \$1.6 billion in NPS pollution controls through the CWSRF.

To reduce NPS related water quality impacts, EPA has been working with the states to strengthen their NPS management programs. All states have now completed upgrading their management programs and are in the process of implementing these programs. To facilitate this effort, EPA and the Association of State and Interstate Water Pollution Control Agencies (ASIWPCA) will continue the state/EPA NPS management partnership to help states identify and meet their technical and programmatic needs. In particular, EPA and the states will work together to better use the CWA Section 319 framework and funds to develop and implement NPS TMDLs.

The new Farm Bill, with its significantly increased funds to address agricultural sources of NPS pollution, affords EPA and the states an enhanced opportunity to significantly accelerate national efforts to control NPS pollution. EPA and state water quality agencies will work closely and cooperatively with USDA, conservation districts, and others in the agricultural community, to combine our strengths, including encouraging a common watershed planning approach. Using CWA Section 319 dollars, states will focus more of their efforts on providing the monitoring and watershed planning support needed by the agricultural community to target their work most effectively on the highest-priority water quality needs. States will also increasingly focus their

existing efforts on filling gaps remaining in USDA programs, especially demonstrating the effectiveness of promising emerging technologies.

States will use their enhanced watershed planning efforts to ensure that their watershed protection and remediation efforts holistically address all significant pollution sources in the watershed in a comprehensive manner. To do so, states will also increase their focus upon NPS categories and activities that are not funded under the Farm Bill (e.g., urban runoff, forestry, abandoned mines, and a variety of stream and stream bank restoration activities), while continuing to work with the agriculture community to solve problems on a watershed basis. Furthermore, states will continue to use a variety of program tools to foster an ethic of pollution prevention in their NPS watershed programs, such as low impact development techniques, source prevention, and public education, to assure that water quality improvement and protection become a permanent outcome of the program.

Under the Coastal Zone Act Reauthorization Amendments (CZARA) 6217(g) program, Coastal states are engaged in a similar process of completing and implementing their coastal NPS management programs. These programs were conditionally approved by EPA and the National Oceanic and Atmospheric Administration (NOAA) in 1998 and to date ten of 29 states have completed this process. EPA and NOAA are working in partnership with the coastal states to fully approve these programs before the expiration of any conditional approvals occurs. EPA and NOAA support the integration of states' NPS management programs and their coastal NPS management programs.

Tribal participation in the Nonpoint Source Control Program under CWA Section 319(h) has steadily increased. The number of tribes receiving CWA Section 319(h) grants has risen from two in 1991 to seventy in 2002. This number, covering well over two-thirds of Indian Country, is expected to increase gradually as more Federally recognized tribes with significant NPS pollution problems become eligible to participate in the 319(h) program. EPA conducts several Tribal workshops every year with the primary objectives of improving tribes' knowledge of NPS pollution, assessment techniques, program development, and implementation. Due to increasing demand for limited Tribal grant funds, EPA is proposing a one year elimination of the current statutory ceiling on the percentage of CWA Section 319 grant funds that may be awarded to tribes/Tribal consortia for NPS activities.

Air Deposition

The Agency will continue efforts to assess the risks associated with and reduce atmospheric deposition of pollutants, particularly nitrogen and mercury, using both CWA and Clean Air Act authorities. To address air deposition, the Agency has established a cross-media team to plan and implement strategies. As a result, water quality protection is considered in regulatory development under the Clean Air Act, in air research, and in the focus of partnerships with local communities. Air deposition is being addressed Agency-wide as an ecosystem problem with health, environmental, and economic impacts. EPA will continue to encourage greater air deposition monitoring, as well as continue to support state TMDLs and other tools that address impacts to water quality.

Research

Effective watershed management strategies and guidance for wet weather flow (WWF) discharges, improved recreational water quality and better risk communication programs are all necessary to ensure clean and safe water for drinking, recreation, and wildlife habitat. WWF discharges drain from urban and rural non-point sources during and after rainfalls is now one of the primary causes of water pollution. This degradation of water quality poses significant risks to human and ecological health through the uncontrolled release of pathogenic bacteria, protozoans, and viruses, as well as a number of potentially toxic, bioaccumulative contaminants. Storm-generated, high flow rates can exacerbate ecological upsets and can cause significant physical damage to streams. In addition, thousands of beach advisories and closings due to high levels of contaminants are issued at recreational rivers, lakes, and oceans every year throughout the United States. According to the Natural Resources Defense Council's twelfth annual beach report, 13,410 closings and advisories were issued in 2001. As monitoring improves and expands, as required by the Beaches Environmental Assessment and Coastal Health Act of 2000 (the Beaches Act), the number is likely to increase.

Under this research objective, EPA will continue to develop and validate effective strategies for controlling WWFs. EPA will also develop and provide effective evaluation tools necessary to make timely and informed decisions on beach advisories and closures and strengthen beach programs and water quality criteria for recreational water use. In order to provide focus to this research, EPA has developed the Risk Management Research Plan for Wet Weather Flows and the Action Plan for Beaches and Recreational Waters. These plans were subject to rigorous external peer review and address problems that pose the greatest risks to human health and the environment. In addition, the draft Water Quality Multi-Year Plan (MYP) provides a framework for integrating research across laboratories and centers and across GPRA goals. To ensure quality, all scientific and technical work products must undergo either internal or external peer review, with major or significant products requiring external peer review.

Research on Wet Weather Flows (WWFs) falls into three categories: 1) watershed management for WWFs; 2) control technology for drainage systems; and 3) infrastructure improvement. Implementation of this work is guided by the Risk Management Research Plan for Wet Weather Flows. In FY 2004, research on WWFs will continue to focus on the development of decision support tools to evaluate and verify improved watershed management strategies. A truly holistic watershed management approach will include practical interaction with flood and erosion control, reuse and reclamation techniques, and infrastructure demands, while protecting the watershed environment, including source waters. To minimize the public health risks from swimming and other recreational water activities, research will specifically focus on both developing techniques to reduce WWF impacts and providing data to support the development of scientifically sound criteria for protecting recreational waters. This program is designed to promote "community-based" decisions by developing decision support tools and alternative WWF control technologies and strategies for use by local decision makers involved in community-based watershed management and pollution control.

Beaches research is guided by the "Action Plan for Beaches and Recreational Waters" and in FY 2004 will continue to focus on better understanding the effects of microbial pathogens

on human health. These pathogens present growing human health and environmental concerns. Significant uncertainty exists in determining the level of illness corresponding to the actual exposure (ingestion, inhalation, and skin contact) to contaminated recreational waters. A scientifically-based investigative process to determine potential health risks and eliminate their sources in recreational waters is needed to provide decision makers with the necessary tools for making defensible science-based decisions that ensure public health and safety. This will include evaluating and selecting appropriate indicators of fecal contamination and determining relationships between indicators and risk levels for disease. In FY 2004 several reports are planned which will contribute to improved public health protection. These include a report on fecal indicator monitoring protocols for different types of recreational waters, an evaluation of alternative indicators of recreational water safety for tropical regions, and an evaluation of the risk posed by exposure to pathogens in the swash zones (sand/water interface regions) of recreational beaches.

EPA is also performing a suite of epidemiological studies needed to establish a stronger, more defensible link between water quality indicators and disease. These epidemiological studies will provide reliable information about the relationship between recreational water quality and swimming-associated health effects. This will enable EPA to provide states with more consistent monitoring methods, standardized indicators of contamination, and standardized definitions of what constitutes a risk to public health. Local public health officials can use the results of this research to provide the public with "real-time" information on potential exposure to pathogenic microbes and make timely beach closure decisions.

FY 2004 Change from FY 2003 Request

EPM

- (+\$2,654,900) This increase in the NPDES program supports permit quality improvements and will allow the program to establish baselines for program performance in areas such as state program audits and permit quality reviews.
- (+460,900, 4.1 FTE) This change represents the distribution of resources for Regional Information Management across all Regions.
- (\$922,500, - 2.7 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

STAG

- (-\$362,000,000) This reduction taken against the Clean Water State Revolving Fund yields a remaining requested level of \$850,000,000 in this request. Continued funding at this level through an extended date of 2011 will increase the long-term annual revolving level by \$.8 billion to \$2.8 billion
- There are additional increases for payroll and cost of living for new and existing FTE.

GOAL: CLEAN AND SAFE WATER

OBJECTIVE: REDUCE LOADINGS AND AIR DEPOSITION

Annual Performance Goals and Measures

NPDES Permit Requirements

- In 2004 Current NPDES permits reduce or eliminate loadings into the nation's waters of (1) inadequately treated discharges from municipal and industrial facilities (direct and indirect dischargers); and (2) pollutants from urban storm water, CSOs, and CAFOs.
- In 2003 Current NPDES permits reduce or eliminate loadings into the nation's waters of (1) inadequately treated discharges from municipal and industrial facilities (direct and indirect dischargers); and (2) pollutants from urban storm water, CSOs, and CAFOs.
- In 2002 Current NPDES permits reduced or eliminated discharges into the nation's waters of (1) inadequately treated discharges from municipal and industrial facilities; and (2) pollutants from urban storm water, CSOs, and CAFOs.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Major point sources are covered by current permits.	83%	90%	90%	Point Sources
Minor point sources are covered by current permits.	74%	84%	87%	Point Sources
Loading reductions (pounds per year) of toxic, non-conventional, and conventional pollutants from NPDES permitted facilities (POTWs, Industries, SIUs, CAFOs, SW, CSOs).		2,500 million	2,750 million	pounds

Baseline: As of May 1999, 72% of major point sources and 54% of minor point sources were covered by a current NPDES permit. At the end of FY99, 53 of 57 states/territories had current storm water permits for all industrial activities, and 50 of 57 had current permits for construction sites over 5 acres. In June 1999, 74% of approximately 900 CSO communities were covered by permits or other enforceable mechanisms consistent with the 1994 CSO Policy. As of December 1999, approximately 14 states had current NPDES general permits for CAFOs and at least another 13 had issued one or more individual NPDES permits for CAFOs.

Clean Water State Revolving Fund: Annual Assistance

- In 2004 900 projects funded by the Clean Water SRF will initiate operations, including 629 projects providing secondary treatment, advanced treatment, CSO correction (treatment), and/or storm water treatment. Cumulatively, 10,440 projects will have initiated operations since program inception.
- In 2003 900 projects funded by the Clean Water SRF will initiate operations, including 515 projects providing secondary treatment, advanced treatment, CSO correction (treatment), and/or storm water treatment. Cumulatively, 9,540 projects will have initiated operations since program inception.
- In 2002 1,100 projects funded by the Clean Water SRF initiated operations, including 400 projects providing secondary treatment, advanced treatment, CSO correction (treatment), and/or storm water treatment. Cumulatively, 8,642 projects have initiated operations since program inception.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
CW SRF projects that have initiated operations. (cumulative)	8,642	9,540	10,440	SRF projects

Baseline: The Agency's National Information Management System (NIMS) shows, as of July 1998, 39 states/territories were conducting separate annual audits of their SRFs and utilizing fund management principles. NIMS shows, as of June 1998, 25 states were meeting the "pace of the program" measures for loan issuance, pace of construction, and use of repayments. As of September 1998, 8 states were using integrated planning and priority systems to make SFR funding decisions. NIMS shows 3,909 SRF projects initiated as of June 1998.

Wastewater Treatment Facility Compliance

In 2004 Enhance public health and environmental protection by securing the nation's critical wastewater infrastructure through support for homeland security preparedness, including vulnerability assessments, emergency operations planning, and system operator training.

In 2003 Enhance public health and environmental protection by securing the nation's critical wastewater infrastructure through support for homeland security preparedness, including vulnerability assessments, emergency operations planning, and system operator training.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percent of the population served by, and the number of, large and medium-sized (10,001 and larger) Publicly Owned Treatment Works (POTWs) that have taken action for homeland security preparedness.		65%/5000	75%/8000	%pop/systems

Baseline: Baseline will be established in FY 2003.

Research

Wet Weather Flow Research

In 2004 Provide to states, regions and watershed managers' indicators, monitoring strategies, and guidance for determining the effectiveness of Best Management Practices (BMPs) for wet weather flows in meeting water quality goals.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Report on fecal indicator monitoring protocols for different types of recreational water.			1	report
Provide guidance on indicator selection and monitoring strategies for evaluating the effectiveness of BMPs.			9/30/04	guidance

Baseline: The costs and complexities of meeting water quality goals subject to urban stormwater permits are daunting. The role of Best Management Practices (BMP's) as both an effective and economical means to meet permit requirements remains the central regulatory and non-regulatory approach for restoring much of the Nation's degraded water quality in urban environments. The scientific literature and reviews of current design and monitoring practices show that the effectiveness of BMPs is highly variable, is often defined and reported differently, and that monitoring rarely documents biological water quality improvements. Efforts are needed to better monitor and characterize the performance of BMPs by detailed analysis of the physical, chemical and biological processes common to many diverse BMPs. Based on on-going research in this area, in FY 2004, EPA will provide comprehensive guidance for application of stormwater BMPs in highly variable urban watersheds across the U.S. This guidance will provide states, regions and watershed managers a means for determining the effectiveness of BMPs in meeting water quality goals.

Program Assessment Rating Tool

Nonpoint Source Grants

As part of the Administration's overall evaluation of effectiveness of Government programs, the Nonpoint Source Grants program was evaluated with the following specific findings:

1. The program purpose is clear and agreed upon by interested parties.

2. The program has not collected sufficient performance information to determine whether it has had a significant effect on pollution.
3. The program's greatest weaknesses are strategic planning and a lack of measurable program results. Consequently, the program lacks adequate long-term, annual, and efficiency measures. Existing annual measures, such as "Number of states reporting on progress in implementing nonpoint source programs" do not provide useful, results-based performance information. The program's previous long-term goal has been met, and the agency has not yet developed a new one.
4. The program is in the process of developing new performance measures that focus on outcomes and efficiency.
5. EPA has made significant improvements to program management over the past several years, which will assist in their efforts to develop new performance measures. For example, in 2002 EPA implemented a new grants tracking system with additional reporting requirements. Through this new system, EPA will be able to see the estimated reductions in sediment and nutrient loads associated with each project implementation, as well as project geolocation.
6. The program overlaps with others in rural areas, such as the Department of Agriculture's Environmental Quality Incentives Program (EQIP) and Conservation Reserve Program.

In response to these findings, and to reduce overlap with similar Department of Agriculture programs that received significant funding increases in the Farm Bill (EQIP goes from \$200 million in 2002 to \$800 million in 2004), the Budget proposes to:

1. Shift the program's focus in agricultural watersheds from implementation of pollution reduction projects to planning, monitoring and assisting in the coordination and implementation of watershed-based plans in impaired and threatened waters.
2. Establish more outcome-focused measures and at least one efficiency measure.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Major Point sources are covered by current permits; Minor Point Sources are covered by current permits.

Performance Database: United States EPA. Permit Compliance System. [database]. (2002). Washington, D.C. [Office of Enforcement and Compliance Assurance].

The Permits Compliance System (PCS) will be used to determine which individual permits have not exceeded their expiration dates through fields for permit issuance and expiration dates. EPA has carried out detailed permit renewal backlog tracking with PCS data since November 1998. To better capture the universe of facilities covered under the NPDES program, beginning in fiscal year 2003, EPA will also include facilities covered under non-storm water general permits in its permit renewal backlog calculations. This change will add 64,000 facilities to the universe

from which the permit renewal backlog is calculated. Data for these facilities will be obtained from the Permit Issuance Forecasting Tool (PIFT). The PIFT has been used to track non-storm water general permit facilities since January 2001.

Data Source: EPA's regional offices and states enter data into PCS and PIFT.

Methods, Assumptions and Suitability: For individual permits, reports are generated from PCS that use permit issuance and expiration dates to aggregate, across each state, the number of major and minor permits which have not exceeded expiration dates. These data measure the number of current permits compared with the universe of individual permits. The PIFT provides the number of facilities covered by current non-storm water general permits which are not tracked in PCS. Together the PCS and PIFT data are intended to measure NPDES program coverage of facilities with up-to-date permit requirements. Data are not available at the national level on facilities covered by storm water general permits. The data are suitable for year -to-year comparisons of officially tracked permit status.

QA/QC Procedures: EPA Headquarters (HQ) reviews data submitted by states as part of the QA/QC process. The Office of Water (OW) has generated state-by-state reports, listing what appears in PCS for key data fields for facilities and discharge pipes (name, address, Standard Industrial Classification (SIC) code, latitude/longitude, Hydrologic Unit Code (HUC), reach, flow, issuance date, expiration date, application received date, effective date, etc.). These reports were distributed in January 2001 to state and regional PCS, NPDES, and Geographic Information Systems (GIS) coordinators to allow states to "see what EPA sees" when it views PCS data. These reports are available on a password protected web site maintained by an EPA contractor. In addition to actual data elements listed above, the site includes summary reports of missing and available data nationally and for every state. (United States EPA (2002). Permit Compliance System Reports. Washington, D.C.: Office of Wastewater Management. Available on the Internet [with password]: <http://clients.limno.com/protected/pscscleanup>

Where discrepancies exist between state and PCS data, OW is identifying such discrepancies and making corrections in PCS, where necessary. Additionally, many states have been collecting and verifying NPDES data on their own, but maintain these data in separate state-level systems (electronic and hard copy). EPA plans to populate fields in PCS that are currently blank with existing state-level data provided by states. Regions enter data into the PIFT, an Access data base maintained by the Water Permits Division, on facilities covered by non-storm water general permits. The PCS database is managed by the Office of Enforcement and Compliance. The Office of Water's Quality Management Plan was approved on September 28, 2001.

Data Quality Review: Office of Inspector General (OIG) audits 8100076 (3/13/98) and 8100089 (3/31/98) discussed the need for current data in PCS. For the year 2002, PCS has been listed as an Agency-Level Weakness under the Federal Managers Financial Integrity Act. This weakness affects EPA's ability to obtain a true picture of the status of the NPDES program. OW is categorizing the form in which the data exist at the state level (e.g. whether in PCS, in a separate state database, or in paper copy only). As EPA creates a picture of national PCS data availability, staff is working with individual states and EPA's regional offices to tailor approaches to getting key data into PCS. OW is offering ongoing data upload, data entry, and, if necessary, data compilation support to states.

EPA is working to modernize PCS, to provide a system that is easier to use and maintain, as well as one that incorporates new, and evolving, NPDES program requirements. The modernization effort will:

1. provide a system which is available on the desktop via a web browser;
2. provide a powerful and easy to use, reporting and query capability;
3. provide NPDES Permit Writer Tool capability directly linked to the PCS database;
4. support new and enhanced NPDES programs such as Storm Water, Concentrated Animal Feeding Operations (CAFOs), Combined Sewer Overflows (CSOs), Sanitary Sewer Overflows (SSOs), Pretreatment, and Biosolids;
5. take advantage of new technologies making integration with other EPA systems a standard way of doing business, rather than requiring special programming;
6. address new EPA initiatives such as tracking reduced pollutant loadings, burden reduction through electronic reporting, and geo-spatial analysis in individual watersheds; and
7. offer new, and enhanced, alternatives for states to transmit data to PCS, such as the Interim Data Exchange Format (IDEF), via EPA's Central Data Exchange (CDX) and the National Environmental Information Exchange Network.

Data Limitations: There are significant data gaps for minor facilities and discrepancies between state databases and PCS. Some states have established their own data systems and have not transferred their data to EPA. The program emphasis has traditionally been on tracking major permits, so many states and EPA regional offices did not enter data for minor permits into PCS.

Error Estimate: We believe that the permit renewal backlog data for major facilities is accurate within 2 percent based on input from EPA's regional offices and states through a quarterly independent verification. For minor facilities, however, the confidence interval is much less precise and probably overestimates the permit renewal backlog for minor facilities by 5 percent based on anecdotal information from EPA's regional offices and states.

New/Improved Data or Systems: EPA headquarters is providing contractor assistance to improve the data quality of PCS. By 2004, PCS is scheduled to be modernized to make it easier to use and to ensure that it includes all needed data to manage the National Pollutant Discharge Elimination System Permit program. EPA is also looking at refining the backlog measure by tracking permits that are issued based on changed situations, e.g., new water quality requirements or effluent guidelines or changes in the facility's discharge.

References:

Region 10's National Pollutant Discharge Elimination System Permit Program - March 13, 1998 (8100076)

Kansas National Pollutant Discharge Elimination System Program - March 31, 1998 (8100089)

PCS information is publicly available at:
<http://www.epa.gov/compliance/planning/data/water/pcssys.html>

FY 2004 Performance Measure: Loading reductions (pounds per year) of toxic and non-conventional, and conventional pollutants from NPDES permitted facilities Publicly Owned Treatment Works (POTWs), Industries, Significant Industrial Users (SIUs), Concentrated Animal Feeding Operations (CAFOs), Storm Water (SW), Combined Sewer Overflows (CSOs)).

Performance Database: This measure is calculated using a spreadsheet¹ that draws from several data sources. An average "per facility" loadings value is assigned to each permitted effluent discharger according to the industrial sector of the facility. Each EPA regional office reports the actual number of permits issued in the past year for each industrial sector, typically drawn from EPA's Permit Compliance System. Using both the average per facility value and the number of permits issued, the spreadsheet then generates the values for the total pollutants reduced. For other sources, such as POTWs, CSOs, and Storm Water, that are not included in the calculation as of calendar year 2002, new sector specific modeling is being developed in order to more fully characterize the pollutant loading reductions resulting from the entire NPDES program. In 2003, we are adding an estimate for CSOs using a model that draws information from the Clean Water Needs Survey¹. We are also developing a model¹ to estimate pollutant reductions from POTWs, both with and without pretreatment programs. We expect that model to draw information from Discharge Monitoring Reports (DMRs) contained in PCS, as well as the annual reports from POTWs to EPA and States. In the future, we also expect to develop a model to estimate pollutant reductions from storm water.

Data Sources: For direct dischargers subject to effluent guidelines, the average per facility value for pollutant reduction is derived from the Technical Development Documents (TDDs) produced at the time of the effluent guideline (ELG) rulemaking. TDDs are available for: Pulp & Paper, Pharmaceuticals, Landfills, Industrial Waste Combustors, Centralized Waste Treatment, Transportation Equipment Cleaning, Pesticide Manufacturing, Offshore Oil & Gas, Coastal Oil & Gas, Synthetic Based Drilling Fluid, and Concentrated Animal Feeding Operations. States and EPA's regional offices enter data into PCS and the Clean Water Needs Survey.

Methods, Assumptions and Suitability: EPA plans to use the data described above to feed into models that are being developed to determine loadings. The data will be aggregated across different types of point sources to determine loading reductions at the national level. Loadings appear to be the best surrogate for determining the environmental impacts of the various point sources.

QA/QC Procedures: EPA reviews critical data submitted by states. EPA has a project underway to work with states to improve the data in PCS (See earlier narrative for "Major/Minor

Point Sources Covered by Current Permits.”) Load reductions are estimated by modeling the various categories of sources. Actual data will be used to calibrate and verify the models, used in accordance with the Office of Water’s Quality Management Plan, approved September 28, 2001. The PCS database is managed by the Office of Enforcement and Compliance, which provides system-specific user manuals.

Data Quality Reviews: Office of Inspector General (OIG) audits 8100076 (3/13/98) and 8100089 (3/31/98) discussed the need for current data in PCS. As of mid-year 2002, PCS is listed as an Agency-Level Weakness under the Federal Managers Financial Integrity Act. This weakness affects EPA’s ability to obtain a true picture of the status of the NPDES program. OW is categorizing the form in which the data exist at the state level (e.g. whether in PCS, in a separate state database, or in paper copy only). As EPA creates a picture of national PCS data availability, staff is working with individual states and EPA’s regional offices to tailor approaches to getting key data into PCS. OW is offering data upload, data entry, and, if necessary, data compilation support to states and anticipates completion of the project by the end of calendar year 2002.

EPA is working to modernize PCS, to provide a system that is easier to use and maintain as well as one that incorporates new, and evolving, NPDES program requirements. The modernization effort will:

1. provide a system which is available on the desktop via a web browser;
2. provide a powerful and easy to use, reporting and query capability;
3. provide NPDES Permit Writer Tool capability directly linked to the PCS database;
4. support new and enhanced NPDES programs such as Storm Water, Concentrated Animal Feeding Operations (CAFOs), Combined Sewer Overflows (CSOs), Sanitary Sewer Overflows (SSOs), Pretreatment, and Biosolids;
5. take advantage of new technologies making integration with other EPA systems a standard way of doing business, rather than requiring special programming;
6. address new EPA initiatives such as tracking reduced pollutant loadings, burden reduction through electronic reporting, and geo-spatial analysis in individual watersheds; and
7. offer new, and enhanced, alternatives for states to transmit data to PCS, such as the Interim Data Exchange Format (IDEF), via EPA’s Central Data Exchange (CDX) and the National Environmental Information Exchange Network.

Data Limitations: There are significant data gaps in PCS, including reliability issues for minor facilities, general permits, and specific categories of dischargers, such as CAFOs. Additionally, neither monitoring nor flow data are required for certain categories of general permits. The Agency, therefore, is not able to provide sufficient information to measure loadings reductions for all of the approximately 550,000 facilities that fall under the NPDES program, also making it

difficult to assess changes in water quality. The effluent guidelines loadings are estimates based the number of permits issued across an industrial sector.

Error Estimate: Because this is a new modeling exercise, it is not yet possible to estimate the error in determining projected loadings.

New/Improved Data or Systems: EPA Headquarters is providing contractor assistance to improve the data quality in PCS. By 2004, PCS is scheduled to be modernized to make it easier to use. As the modernized system is being developed, additional efforts are underway to bolster comprehensive data collection to ensure that the modernized system includes data needed to manage the National Pollutant Discharge Elimination System program.

References:

Effluent guidelines development documents are available at:
<http://www.epa.gov/waterscience/guide> and at <http://www.epa.gov/water/soft.html>

Modeling databases and software being used by the Office of Water are available at:
<http://www.epa.gov/water/soft.html>

FY 2004 Performance Measure: Clean Water State Revolving Fund (CWSRF) projects that have initiated operations.

Performance Database: Clean Water State Revolving Fund National Information Management System (NIMS.)

Data Sources:

1. Reporting by municipal and other facility operators.
2. Entry by state regulatory agency personnel and by EPA's regional staff.
3. Collecting and reporting once yearly.

Methods, Assumptions and Suitability: Data entered into NIMS directly represent the units of performance for the performance measure. These data are suitable for year-to-year comparison and trend indication.

QA/QC Procedures: EPA's headquarters and regional offices are responsible for compiling the data and querying states as needed to assure data validity and conformance with expected trends. States receive data entry guidance from EPA headquarters in the form of annual memoranda: "Request for Annual Update of Data for the Clean Water State Revolving Fund National Information Management System, July 1, 200X through June 30, 200X."

Data Quality Reviews: EPA's headquarters and regional offices annually review the data submitted by the states. These state data are publicly available at

<http://www.epa.gov/r5water/cwsrf/index.htm#> in individual state reports. Headquarters addresses significant data variability issues directly with states, or through the appropriate EPA regional office. An annual EPA headquarters' "NIMS Analysis" provides detailed data categorization and comparison. This analysis is used during:

1. Annual EPA regional office and state reviews to identify potential problems with the program's pace which might affect the performance measure.
2. Biennial reviews by EPA's headquarters of regional oversight of state revolving funds.
3. Annual reviews by EPA's regional offices of their states' revolving funds operations.

State data quality is also evaluated during annual audits performed by independent auditors or by the appropriate regional office of the EPA Inspector General. These audits are incorporated into EPA headquarters' financial management system.

Data Limitations: There are no known limitations in the performance data, which states submit voluntarily. Erroneous data can be introduced into the NIMS database by typographic or definitional error. Typographic errors are controlled and corrected through data testing performed by EPA's contractor. Definitional errors due to varying interpretations of information requested for specific data fields have been virtually eliminated in the past two years as a result of EPA headquarters' clarification of definitions. These definitions are publicly available at: <http://www.epa.gov/r5water/cwsrf/pdf/nimsdef.pdf>. There is typically a lag of approximately two months from the date EPA asks states to enter their data into the NIMS database, and when the data are quality-checked and available for public use.

Error Estimate: Due to the rapid growth of this program, past estimates of annual performance (relative to a target), compared to actual performance data received two years later, have been accurate to an average of approximately 12 percentage points.

New/Improved Data or Systems: This system has been operative since 1996. It is updated annually, and data fields are changed or added as needed.

References:

State performance data as shown in NIMS are available by state at:
<http://www.epa.gov/r5water/cwsrf>.

Definitions of data requested for each data field in NIMS is available at:
<http://www.epa.gov/r5water/cwsrf/pdf/nimsdef.pdf>

The Office of Water Quality Management Plan, July 2001 (approved September 28, 2001) addresses the quality of data in NIMS. Not publicly available.

The "National CWSRF & DWSRF Audit Strategy," August 2002, addresses the accuracy of state data, among other things. Not publicly available

The annual "NIMS Analysis" provides information used to support the performance measure. Not publicly available.

FY 2004 Performance Measure: Provide guidance on indicator selection and monitoring strategies for evaluating the effectiveness of BMPs.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: Guidance

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2004 Performance Measure: Report on fecal indicator monitoring protocols for different types of recreational water.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: Report

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

Coordination with Other Agencies

National Pollutant Discharge Elimination System Program (NPDES)

Since inception of the NPDES program under Section 402 of the CWA, EPA and the authorized states have developed expanded relationships with various Federal agencies to implement pollution controls for point sources. EPA works closely with the Fish and Wildlife Service and the National Marine Fisheries Service on consultation for protection of endangered species through a Memorandum of Agreement. EPA works with the Advisory Council on Historic Preservation on National Historic Preservation Act implementation. EPA and the states rely on monitoring data from the United States Geological Survey (USGS) to help confirm pollution control decisions. The Agency also works closely with the Small Business Administration and the Office of Management and Budget to ensure that regulatory programs are fair and reasonable. The Agency coordinates with the National Oceanic and Atmospheric Administration (NOAA) on efforts to ensure that NPDES programs support coastal and national estuary efforts; and with the Department of Interior on mining issues.

Joint Strategy for Animal Feeding Operations

The Agency is working closely with the USDA to implement the Unified National Strategy for Animal Feeding Operations finalized on March 9, 1999. The Strategy sets forth a framework of actions that USDA and EPA will take to minimize water quality and public health impacts from improperly managed animal wastes in a manner designed to preserve and enhance the long-term sustainability of livestock production. EPA's recent revisions to the CAFO Regulations (effluent guidelines and NPDES permit regulations) will be a key element of EPA and USDA's plan to address water pollution from CAFOs. EPA and USDA senior management meet routinely to ensure effective coordination across the two agencies.

Clean Water State Revolving Fund (CWSRF)

Representatives from EPA's SRF program, Housing and Urban Development's (HUD's) Community Development Block Grant program, and USDA's Rural Utility Service have signed a Memorandum of Understanding committing to assisting state or Federal implementers in: (1) coordination of the funding cycles of the three Federal agencies; (2) consolidation of plans of action (operating plans, intended use plans, strategic plans, etc.); and (3) preparation of one environmental review document, when possible, to satisfy the requirements of all participating Federal agencies. A coordination group at the Federal level has been formed to further these efforts and maintain lines of communication. In many states, coordination committees have been established with representatives from the three programs.

Clean Water SRF Indian Set Aside - Indian Health Service and Rural Utilities Service

In implementation of the Indian set-aside grant program under Title VI of the CWA, EPA works closely with the Indian Health Service to administer grant funds to the various Indian tribes, including determination of the priority ranking system for the various wastewater needs in Indian Country.

In 1998, EPA and the Rural Utilities Service of the USDA formalized a partnership between the two agencies to provide coordinated financial and technical assistance to Indian tribes.

Construction Grants Program--US Army Corps of Engineers

Throughout the history of the construction grants program under Title II of the CWA, EPA and the delegated states have made broad use of the construction expertise of the Corps of Engineers to provide varied assistance in construction oversight and administrative matters. EPA works with the Corps to provide oversight for construction of the special projects that Congress has designated. The mechanism for this expertise has been and continues to be an Interagency Agreement between the two agencies.

Nonpoint Sources

EPA will continue to work closely with its Federal partners to achieve the ambitious strategic objective of reducing pollutant discharges, including at least 20 percent from 1992 erosion levels. Most significantly, EPA will continue to work with the USDA, which has a key role in reducing sediment loadings through its continued implementation of the Environmental Quality Incentives Program, Conservation Reserve Program, and other conservation programs. USDA also plays a major role in reducing nutrient discharges through these same programs and through activities related to the AFO Strategy. EPA will also continue to work closely with the Forest Service and Bureau of Land Management, whose programs can contribute significantly to reduced pollutant loadings of sediment, especially on the vast public lands that comprise 29 percent of all land in the United States. EPA will work with these agencies, USGS, and the states to document improvements in land management and water quality.

EPA will also work with other Federal agencies to advance a watershed approach to Federal land and resource management to help ensure that Federal land management agencies serve as a model for water quality stewardship in the prevention of water pollution and the restoration of degraded water resources. Implementation of a watershed approach will require coordination among Federal agencies at a watershed scale and collaboration with states, tribes and other interested stakeholders.

Air Deposition

EPA is working with NOAA, as well as with state air and water programs and National Estuary Programs where the impacts of air deposition are of concern. EPA plans to continue to work with other Federal agencies such as USGS to address atmospheric deposition problems.

Research

Implementation of EPA's WWF work is guided by the "Risk Management Research Plan for Wet Weather Flows." This research plan was peer-reviewed by the Urban Water Resources Research Council of the American Society of Civil Engineers (ASCE) and the Water Environment Research Foundation of the Water Environment Federation. Projects under the

WWF research plan are being coordinated with projects under Section 104(b) (3) of the Clean Water Act (CWA). This plan is also being used to coordinate relevant work being conducted by others such as the Water Environment Research Foundation's Wet Weather Advisory Panel, the ASCE Urban Water Resources Research Council, the United States Department of Agriculture, the United States Centers for Disease Control and Prevention (CDC), the Army Corps of Engineers (USACE), the United States Geological Survey (USGS), the Sanitary Sewer Overflow (SSO) Advisory Committee and Urban WWF Subcommittee, and other national and international organizations that work to improve coordination and minimize duplication of WWF research.

EPA is partnering with numerous other Federal and state agencies on WWF research projects. For example, the Agency signed a three-year interagency agreement (IAG) with USACE at the Waterways Experiment Station (WES) in Vicksburg, Mississippi, to develop a numerical watershed model that will predict change in stream channels from land use change. Both organizations have an inherent interest in developing the tools to predict such geomorphologic changes. Land use changes alter storm water runoff patterns, which upset the established equilibrium between the flow, shape, and course of the streambed (stream geomorphology). Under this IAG the USACE will modify an existing river model to account for erosion in small streams.

Also, EPA is pursuing collaborative research projects with the USGS to utilize water quality data from urban areas obtained through their National Ambient Water Quality Assessment (NAWQA) program. The USGS data for urban streams show levels of pesticides that are even higher than in many agricultural area streams. These data have potential uses for identifying sources of urban pesticides. EPA will evaluate how the USGS data could be integrated into the GIS database system.

Statutory Authorities

Clean Water Act

Clean Air Act

Coastal Zone Act Reauthorization Amendments of 1990

Safe Drinking Water Act

Toxic Substances Control Act

Wet Weather Water Quality Act of 2000

Marine Protection, Research and Sanctuaries Act

Water Resources Development Act (WRDA)

Certain Alaskan Cruise Ship Operations (PL 106-554)

Research

Clean Water Act

Clean Air Act

Coastal Zone Act Reauthorization Amendments of 1990

Safe Drinking Water Act

Toxic Substances Control Act

Goal 3: Safe Food

Environmental Protection Agency
2004 Annual Performance Plan and Congressional Justification
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Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Safe Food

Strategic Goal: The foods Americans eat will be free from unsafe pesticide residues. Particular attention will be given to protecting subpopulations that may be more susceptible to adverse effects of pesticides or have higher dietary exposures to pesticide residues. These include children and people whose diets include large amounts of noncommercial foods.

Resource Summary (Dollars in thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Safe Food	\$113,098.3	\$109,814.6	\$119,011.5	\$9,196.9
Reduce Risks from Pesticide Residues in Food	\$47,447.6	\$45,290.4	\$43,427.9	(\$1,862.5)
Eliminate Use on Food of Pesticides Not Meeting Standards	\$65,650.7	\$64,524.2	\$75,583.6	\$11,059.4
Total Workyears	781.3	770.1	785.0	14.9

Background and Context

The United States Environmental Protection Agency (EPA) plays a major role in the lives of the American public by ensuring that agricultural use of pesticides will not result in unsafe food. EPA accomplishes this by registering new pesticide products and reviewing older pesticide products by strict standards that protect human health and the environment from risks associated with pesticide use.

EPA uses the latest scientific information to ensure that there is "a reasonable certainty" that no harm will result to human health from all combined sources of exposure to pesticides (aggregate exposures). Moreover, it submits for review its critical risk assessment science issues, its methodologies for toxicity testing and related science issues, to the Science Advisory Panel (SAP), an independent, expert advisory committee. The SAP plays a critical role in EPA's decision-making process, assuring that decisions impacting health and the environment rely on sound science.

The potential risk of adverse effects to consumers from pesticide residues in foods is a primary concern for the Agency, as is the potential bioconcentration of certain pesticides in plant and animal tissues that may result in even higher levels of exposure. Critical to protecting human health is the review of food use pesticides for potential toxic effects such as birth defects, cancer, disruption of the endocrine system, changes in fertility, harmful effects to the kidneys

and liver, and nervous system bioaccumulation. Under Goal 3, the Safe Food goal, EPA ensures that any residues on food do not exceed established limits.

All pesticides are subject to EPA regulation including insecticides, herbicides, fungicides, rodenticides, disinfectants, plant growth regulators, plant incorporated protectants and other substances intended to control pests. Pesticides are used in agriculture, greenhouses, on lawns, in swimming pools, industrial buildings, households, and in hospitals and food service establishments. The total United States pesticide usage in 1999 was 5 billion pounds.¹ Agriculture accounts for about 80 percent of all pesticide applications. Herbicides are the most widely used pesticides and account for the greatest expenditure and volume, approximately \$6.4 billion and 534 million pounds in 1999. Biopesticides and reduced risk pesticides are assuming an increasingly important role. For example, safer pesticides, which include biopesticides and reduced risk pesticides, increased in use from 3.6% in 1998 to 7.5% of total pounds reported for 2002.²

EPA's Pesticide Regulations Affect a Cross Section of the US Population

- 18 major pesticide producers and another 100 smaller producers
- 2,200 formulators
- 33,100 commercial pest control firms
- 1.9 million farms
- Several million industry and government users
- About 77 million households

Source: EPA's 1998/1999 Pesticides Sales and Usage Report¹

EPA regulates pesticides under two main statutes: the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and the Federal Food and Drug Cosmetic Act (FFDCA). FIFRA requires pesticides to be registered (licensed) by EPA before they may be sold or distributed in the United States, and that they perform their intended functions without causing unreasonable adverse effects to people or the environment when used according to EPA-approved label directions. At the same time, recognizing the role of pesticides in ensuring a diverse, abundant and affordable food supply, EPA works to streamline its licensing procedures and increase transparency in the review process.

FFDCA authorizes EPA to set tolerances, or maximum legal limits, for pesticide residues in or on food. Tolerance requirements apply equally to domestically produced and imported food. Any food with residues not covered by a tolerance, or in amounts that exceed an established tolerance, may not be legally marketed in the United States.

Amendments to both FIFRA and FFDCA by the Food Quality Protection Act (FQPA) of 1996 enhance protection of children and other sensitive sub-populations. FQPA establishes a single, health-based safety standard for all pesticide residues. The agency-wide FY 2004 request supporting FQPA includes \$150 million for EPA's work under these laws, enabling the public to enjoy one of the safest, most abundant, and most affordable food supplies in the world. FQPA also enhanced EPA's ability to protect human health and the environment in several other ways, including:

¹ Ibid.

² Doane Marketing Research, Inc.: <http://www.doanemr.com>

- § Providing for a more complete assessment of potential risks, with special protections for sensitive groups, such as infants and children;
- § Improvement of antimicrobial registration process and establishment of tolerances for food use inert ingredients;
- § Expediting the approval of reduced risk pesticides;
- § Encouraging farmers' adoption of safer pest management practices;
- § Ensuring that pesticides are periodically reassessed for consistency with current safety standards and the latest scientific and technological knowledge; and
- § Educating consumers about pesticide risks and benefits.

Means and Strategy

The Agency's strategy for accomplishing the objectives of Safe Food is based on five pillars, four of which are in Goal 3 and one is in Goal 4. Under Goal 3, the EPA is:

- Assuring that new chemicals and new uses are registered in accordance with the FQPA's strict standard, a "reasonable certainty of no harm," so that no harm will result to human health from exposure to pesticides;
- Assuring that pesticide maximum legally allowable tolerances for foods eaten by children are in conformance with FQPA requirements that protect children;
- Re-evaluating older, potentially higher-risk pesticides using the best current scientific data and methods to determine whether additional limits on a pesticides use are needed to provide reasonable certainty of no harm, especially for children and other sensitive populations; and
- Expediting review and registration of alternative pesticides that are less risky than pesticides currently in use and that may be substituted effectively for higher risk pesticides.

New registration actions result in more pesticides on the market that meet the strict FQPA pesticide risk-based standards, which brings the Agency closer to the objective of reducing adverse risks from pesticide use. In 2004, the Agency will continue to promote accelerated registrations for pesticides that provide improved risk reduction or risk prevention compared to those currently on the market. Progressively replacing older, higher-risk pesticides is one of the most effective methods for curtailing adverse impact on health and the ecosystem while preserving food production rates.

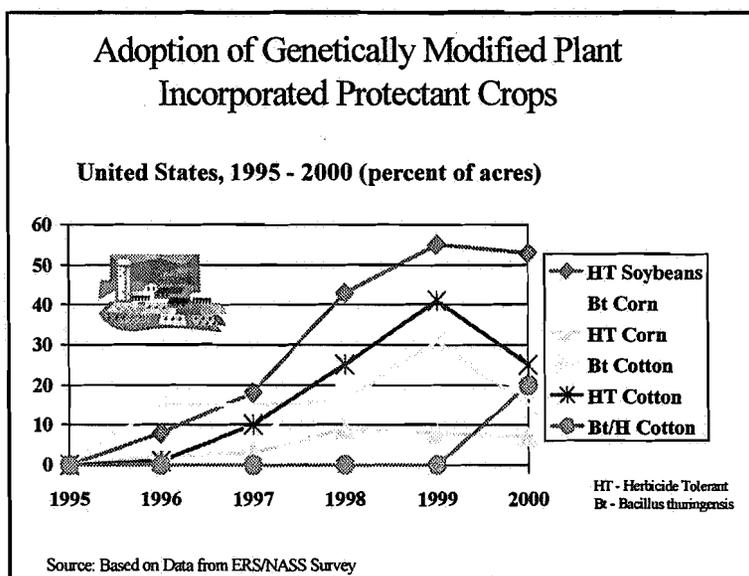
EPA uses its authorities to manage systematically the risks of pesticide exposures by establishing legally permissible food-borne pesticide residue levels, or tolerances. EPA defines

the legal use of pesticides, up to and including the elimination of pesticides that present a danger to human health and the environment. This task involves a comprehensive review of new and existing pesticides as stipulated by the FIFRA mandated registration and reregistration programs, as well as a comprehensive reassessment and update of existing tolerances within ten years, as required by FQPA. Requested resources include enhancing the efforts to review antimicrobials as well as inert ingredients, in order to meet the FQPA deadlines. In FY 2004, EPA will also increase support for the homeland security activities related to identifying antimicrobials that are effective against potential bio-agents that could be used against the United States

Tolerance reassessments may mean mandatory use changes because a revision in the allowable residue levels can involve changes in pesticide application patterns, changes in the foods the pesticides may be applied to, and other risk management methods. As measured by the number of tolerances that have been reassessed, the Agency's progress in the tolerance reassessment program directly serves the objective of reducing the use on food of pesticides that do not meet the new standards. EPA uses the latest scientific advances in health-risk assessment practices in its reviews. This includes the incorporation of new scientific data relating to the effects of endocrine disruption and the special needs of susceptible populations such as children and Native Americans.

Biotechnology has presented the Agency with a range of new issues and scientific challenges as well. Outreach activities on the subject of biotechnology such as public meetings and scientific peer reviews of our policies and assessments are likely to be expanded to keep pace with changing science and the public's demand for information in this area. EPA is working closely with other Federal agencies involved in biotechnology and is also actively involved in developing international standards for the regulation of biotechnology products.

Biotechnology is becoming increasingly more important in our economy with bio-engineered plants accounting for a larger share of acres planted than ever before in the United States. For example, in 1996, Herbicide Resistant (HT) Soybeans accounted for only eight percent of the total United States acres planted in soybeans. In 2000, HT Soybeans accounted for 53 percent of the acres planted for other crops. Trends also indicate increases, though not as dramatically as for soy. (See chart.)³



Adoption of biotechnology has great potential to reduce reliance on some older, more risky chemical pesticides, and to lower worker risks. For example, the use of Bt cotton has

³ ERS/NASS Survey: <http://www.usda.gov/nass>

affected the use of other insecticides that present higher risk to wildlife. According to the reported number of insecticide treatments per planted acre of cotton, use of insecticides labeled either toxic or extremely toxic to wildlife has undergone significant reduction since 1995, with the extremely toxic pesticides decreasing from 1.6 to 0.5 acre treatments, a 68% reduction.

In addition to setting the requirements for continued legal use of agricultural pesticides, EPA works in partnership with USDA, FDA and the states toward the broader effort to prevent the misuse of pesticides. In the ever-changing environment of pesticide use, accessibility to information is a primary component of an effective strategy to inform the public on the appropriate, safe use of pesticides to minimize risk. More information about EPA's food safety efforts is available on the Agency's website at <http://www.epa.gov/pesticides>.

Research

Current approaches to human health risk assessment focus on single pesticides and do not adequately account for cumulative risks arising from complex exposure patterns and human variability due to age, gender, pre-existing disease, health and nutritional status, and genetic predisposition. The Food Quality Protection Act (FQPA) identifies clear science needs, including the evaluation of all potential routes and pathways of exposures to pesticides, and resulting health effects, particularly for sensitive sub-populations and considering effects from cumulative exposures.

To support the FQPA, tools are needed for assessing aggregate and cumulative risks across the exposure-to-dose-to-effects continuum that result from multimedia, multipathway exposures to pesticides with like mechanisms of action. Research is also needed to further understand the magnitude and extent of aggregate and cumulative exposures of pesticides used on food, in drinking water, and through non-occupational exposures in and around residential environments and other indoor/outdoor environments. Special emphasis will be placed on characterizing exposures and the corresponding critical factors influencing these exposures in those environments where young children spend the majority of their time.

Several mechanisms are in place to ensure a high-quality research program at EPA. The Research Strategies Advisory Committee (RSAC) of EPA's Science Advisory Board (SAB), an independent chartered Federal Advisory Committee Act (FACA) committee, meets annually to conduct an in-depth review and analysis of EPA's Science and Technology account. The RSAC provides its findings to the House Science Committee and sends a written report on the finding to EPA's Administrator after every annual review. Also, under the Science to Achieve Results (STAR) program all research projects are selected for funding through a rigorous competitive external peer review process designed to ensure that only the highest quality efforts receive funding support. In addition, EPA's scientific and technical work products must undergo either internal or external peer review, with major or significant products requiring external peer review. The Agency's Peer Review Handbook (2nd Edition) codifies procedures and guidance for conducting peer review.

Strategic Objectives and FY 2004 Annual Performance Goals

Highlights

Reduce Public Health Risk from Pesticide Residues

FFDCA and FIFRA authorize EPA to set terms and conditions of pesticide registration, marketing and use. EPA will use these authorities to reduce residues of pesticides with the highest potential to cause cancer or neurotoxic effects, including those which pose particular risks to children and other susceptible populations. All new pesticides, including food/feed-use pesticides are registered after an extensive review and evaluation of human health and ecosystem studies and data, applying the most recent scientific advances in risk assessment. The Registration program includes registration activities, such as setting tolerances, registering new active ingredients and new uses, and handling experimental use permits and emergency exemptions.

In 2004, the Agency will continue its efforts to decrease the risk the public faces from agricultural pesticides through the regulatory review of new pesticides, including reduced risk pesticides and biopesticides. EPA expedites the registration of reduced risk pesticides, which are generally presumed to pose lower risks to consumers, lower risks to agricultural workers, and lower risk to the earth's ozone layer, groundwater, aquatic organisms or wildlife. These accelerated pesticide reviews provide an incentive for industry to develop, register, and use lower risk pesticides. Additionally, the availability of these reduced risk pesticides provides alternatives to older, potentially more harmful products currently on the market.

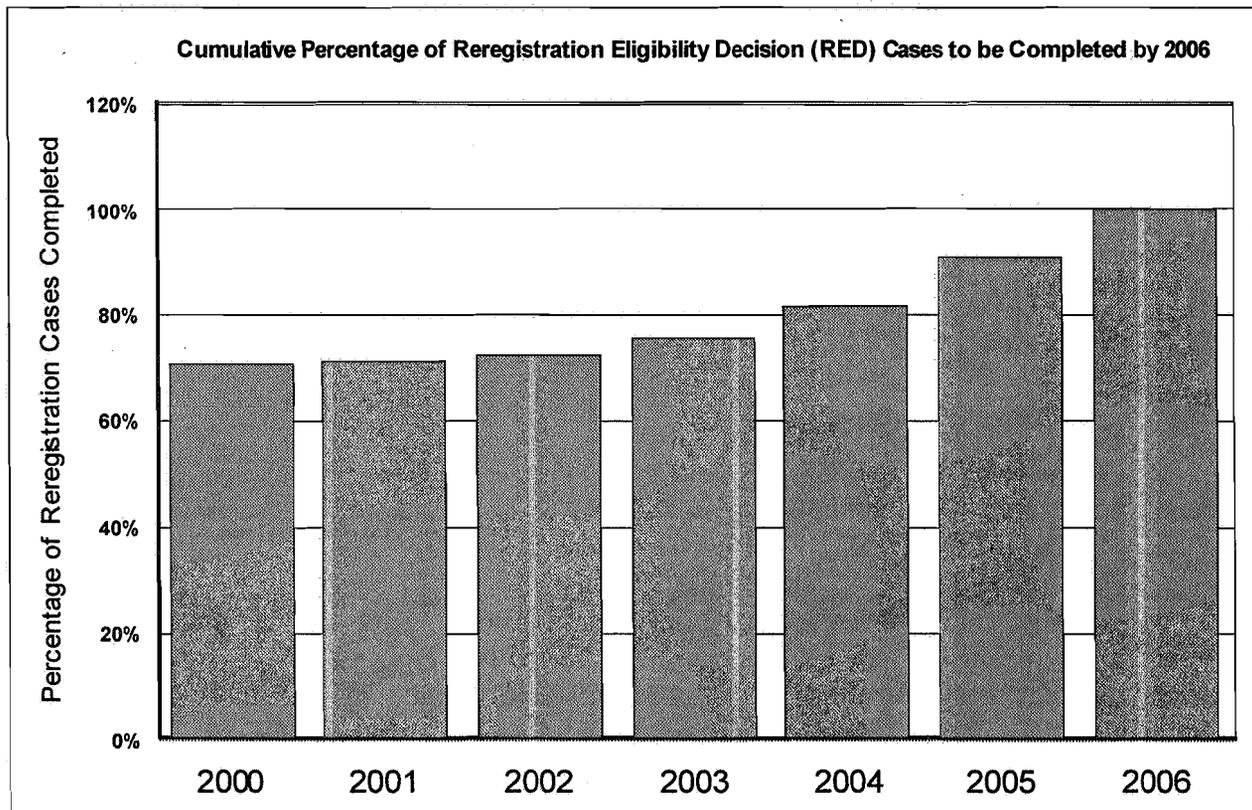
Reduce Use on Food of Pesticides Not Meeting Current Standards

Pesticide reregistration is a statutory requirement under the 1988 amendments to FIFRA. Under the law, all pesticides registered prior to November 1984 must be reviewed to ensure that they meet current health and safety standards. The 1996 Food Quality Protection Act requires the reassessment of pesticide tolerances by 2006. Many pesticides must be reviewed under both statutes. New program requirements and priorities include:

- review of inert ingredients;
- reform of the antimicrobial review process;
- transparency of our regulatory decisions;
- incorporation of aggregate and cumulative risk into our reviews;
- special protection for infants and children; and
- endocrine screening of pesticides, minor use enhancements and reduced risk registration emphasis.

In FY 2004, the Agency will continue its review of older pesticides and move forward toward its ten-year statutory deadline of reassessing all 9,721 tolerances, after having met the statutory deadline of reassessing a cumulative 66 percent of those tolerances by August 2002. The Agency will also continue to develop tools to screen pesticides for their potential to disrupt the endocrine system. In 2004, EPA will work toward completing 35 Reregistration Eligibility Decisions (REDs), 400 product reregistrations and 1050 tolerance reassessments.

The tolerance reassessment process addresses the highest-risk pesticides first. Using data surveys conducted by the USDA, the FDA and other sources, EPA has identified a group of "top 20" foods consumed by children and matched those with the tolerance reassessments required for pesticides used on those foods.⁴ The Agency has begun to track its progress in determining appropriate tolerances for these pesticides under the new FQPA standards. In 2004, EPA will continue its effort to reduce dietary risks to children, by completing approximately a cumulative 83 percent of these tolerances of special concern.



Two widely used groups of pesticides, organophosphates and carbamates, are believed to pose higher risks, particularly to children. Curtailing or restricting the use of these pesticides will significantly change current farming practices that have relied upon them. These changes will likely mean adopting integrated pest management strategies that draw on cultural and biological, as well as mechanical and chemical techniques. With new strategies comes a steep learning curve on how to use them effectively. This transition requires broad input and participation by

⁴ USDA Food Consumption Survey, 1989-1991; <http://www.ers.usda.gov/epubs/pdp/sb965>

stakeholders to minimize adverse, unintended consequences on agriculture, as well as pilot projects to field-test and demonstrate the new methods.

Through the Reregistration program, EPA reviews pesticides currently on the market to ensure they meet the latest health standards. Pesticides not in compliance with the new standards will be eliminated or restricted in order to minimize potentially harmful exposure. FQPA added considerably more complexity to the pesticide reregistration process, lengthening the "front end" of reregistration. These requirements include considering aggregate exposure and cumulative risk in our risk assessments, implementing new processes to increase involvement of pesticide users and other stakeholders, and ensuring a reasonable opportunity for agriculture to make the transition to new, safer pest control tools and practices. Over the longer run, these changes will enhance protection of human health and the environment. The Agency's progress in achieving goals for production of REDs and its tolerance reassessment component are summarized in the chart.

The FY 2004 President's Budget assumes the tolerance assessment and reassessment programs will be partially funded by fees to be collected under a revised Tolerance Fee rule. The FY 2004 request also includes a proposal to extend the Maintenance Fee through 2006, to provide stable funding for reregistration and expedited processing activities.

The Administration evaluated the Pesticide Registration and Reregistration Programs this past year using the Performance Assessment Rating Tool (PART). The evaluation found that both programs address important nationwide programs and have clear missions, however further work is needed in the area of performance measurement.

Research

In FY 2004, EPA's research program will continue to develop pesticides exposure and effects data, risk assessment methods and models for children, and control technologies needed to comply with the requirements of Food Quality Protection Act (FQPA).

Specifically, exposure research will develop new and enhance existing tools to estimate aggregate and cumulative exposures of young children to pesticides and other toxic chemicals. Research will address major data gaps and uncertainties associated with the exposure assessment requirements for the FQPA. Health effects research will focus on understanding dose-response relationships and using this understanding to develop new and enhance existing methods to evaluate the effects of cumulative exposures to pesticides and toxic chemicals, including both long-term exposures and multiple acute exposures.

Risk assessment research will complete a framework for use of toxicokinetic data and models in risk assessment as a foundation for comprehensive risk assessment guidance. The guidance will provide analysis and recommendations for: 1) use of physiologically-based pharmacokinetic (PBPK) models and data in risk assessment; 2) analysis of relevant issues such as age-related dosimetry and extrapolation between species and age groups; 3) databases relevant to toxicokinetic approaches; and 4) risk assessment methods that reduce the use of default assumptions. Risk management research will begin developing standard protocols for assessing treatment effects on pesticide residues in drinking water, and testing the efficiency of drinking

water treatment and the formation of degradation bi-products for pesticide classes of high priority that are not on the Candidate Contaminant List (CCL). Information collected from these protocols will be used in aggregate and cumulative exposure assessments.

External Factors

The ability of the Agency to achieve its strategic objectives depends on several factors over which the Agency has only partial control or little influence. EPA relies heavily on partnerships with states, tribes, local governments and regulated parties to protect the nation's food supply, the environment, and human health, from pesticides.

EPA assures the safe use of pesticides in coordination with the USDA and FDA, who have responsibility to monitor and control residues on food and other environmental exposures. EPA also works with these agencies to coordinate with other countries and international organizations with which the United States shares pesticide-related environmental goals. The Agency employs a number of mechanisms and programs to assure that our partners will have the capacity to conduct the activities needed to achieve the objectives. Much of the success of EPA's pesticide programs also depends on the voluntary cooperation of the private sector and the public.

Other factors that may delay or prevent the Agency's achievement of the objectives include lawsuits that delay or stop the planned activities of EPA and/or state partners, new or amended legislation and new commitments within the Administration. Economic growth and changes in producer and consumer behavior could also have an influence on the Agency's ability to achieve the objectives within the time frame specified.

Large-scale accidental releases, such as pesticide spills, or rare catastrophic natural events (such as hurricanes or large-scale flooding) could impact EPA's ability to achieve objectives in the short term. In the longer term, the time frame for achieving many of the objectives could be affected by new technology or unanticipated complexity or magnitude of pesticide-related problems.

Newly identified environmental problems and priorities could have a similar effect on long-term goals. For example, pesticide use is affected by unanticipated outbreaks of pest infestations and/or disease factors, which require EPA to review emergency uses in order to preclude unreasonable risks to the environment. While the Agency can provide incentives for the submission of registration actions such as reduced risk and minor uses, EPA does not control incoming requests for registration actions. As a result, the Agency's projection of regulatory workload is subject to change.

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Safe Food

Objective: Reduce Risks from Pesticide Residues in Food

By 2006, reduce public health risk from pesticide residues in food from pre-Food Quality Protection Act (FQPA) levels (pre-1996).

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Risks from Pesticide Residues in Food	\$47,447.6	\$45,290.4	\$43,427.9	(\$1,862.5)
Environmental Program & Management	\$45,091.3	\$42,964.7	\$40,504.6	(\$2,460.1)
Science & Technology	\$2,356.3	\$2,325.7	\$2,923.3	\$597.6
Total Workyears	332.6	331.1	339.5	8.4

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Endocrine Disruptor Screening Program	\$1,860.4	\$2,096.3	\$2,052.3	(\$44.0)
Facilities Infrastructure and Operations	\$4,725.2	\$4,462.6	\$4,526.5	\$63.9
Homeland Security-Critical Infrastructure Protection	\$500.0	\$0.0	\$0.0	\$0.0
Homeland Security-Preparedness, Response and Recovery	\$0.0	\$0.0	\$1,218.3	\$1,218.3
Legal Services	\$1,019.7	\$1,095.3	\$1,143.6	\$48.3
Management Services and Stewardship	\$504.0	\$420.6	\$450.3	\$29.7

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Pesticide Registration	\$31,832.4	\$30,882.2	\$25,042.4	(\$5,839.8)
Pesticide Reregistration	\$6,227.0	\$5,673.4	\$6,143.8	\$470.4
Pesticide Residue Tolerance Reassessments	\$813.3	\$660.0	\$2,806.2	\$2,146.2
Planning and Resource Management	\$0.0	\$0.0	\$44.5	\$44.5
Safe Pesticide Applications	\$25.0	\$0.0	\$0.0	\$0.0

FY 2004 Request

This request highlights EPA's efforts to improve the safety of our food supply and continues emphasis on implementing FQPA, especially in the protection of infants and children. The Agency will expand partnerships with the United States Department of Agriculture (USDA), Food and Drug Administration (FDA) and other components of the Department of Health and Human Services (HHS), and with the international Organization for Economic and Cooperation Development (OECD) and others to engage and share information with stakeholders and to develop and facilitate the implementation of strategies for the public, industry and agriculture to conduct a smooth transition to safer pest management for food crops. EPA will continue to ensure that the best available science is incorporated into the implementation of the statute.

Pesticides currently on the market with approved food uses include some which are suspected human carcinogens, neurotoxins or endocrine disruptors and thus may pose significant health concerns, especially to children. FQPA provides unprecedented opportunities to protect human health and to positively impact agricultural production techniques, lessening the overall risk of pesticide use. FQPA further requires that the Agency review pesticides on a periodic basis to ensure that those registered for use meet the most current health standards. Through this registration review, FQPA ensures that when properly used, there is "a reasonable certainty of no harm" to human health or the environment. The review of existing pesticides through reregistration and tolerance reassessment combined with the availability of safer pesticides through registration continues to improve the risk picture for agriculture.

Registration Activities

Under the Registration program, EPA registers new pesticides after extensive review and evaluation of studies and data on human health and ecological effects. As part of the process, the Agency analyzes data and sets a tolerance level for each crop or crop grouping (use) the registrant requests for the specific pesticide. The tolerance level is the legal limit for how much pesticide may remain on a food. The Registration program gives priority to accelerated processing of reduced risk pesticides which may substitute for products already on the market, thus giving farmers and other users' new tools that are better for health and the environment.

There are many types of registration requests submitted by industry for EPA approval. These include requests for registration of new active ingredients, new pesticides that may simply be new formulations of ingredients already registered (me-toos), new uses that add a crop type to the approved uses of the registered pesticide and minor uses for low volume crops.⁵

The FY 2004 Agency request includes additional resources for the review of inert ingredients. FQPA also requires that EPA review inert ingredients added to pesticide products. These “inert” ingredients have no pesticidal properties; however, these agents are often chemically active and must be reviewed for unintended effects on humans and the environment. Increased public education and full ingredient disclosure (including inerts) on pesticide product labels must be balanced to protect confidential business information (CBI) from being disclosed. Under FQPA, the “reasonable certainty of no harm” safety standard applies to inert ingredients for establishing a tolerance or tolerance exemption.

Until recently, the Agency did not have an established methodology for the review of inerts. In March 2000, the Agency established a diverse workgroup with members from public health, environmental, industry, academic, and state government organizations to address measures to increase the availability of information about inerts to the public. The workgroup presented their proposed risk assessment methodology for inerts to the Pesticide Program Dialogue Committee (PPDC) in December 2001 which was published late in FY 2002. The methodology incorporates a sorting system that will greatly streamline the process which will help the Agency address the existing backlog.

During the last several years, the Agency has engaged the public and the scientific community in developing and reviewing nine science policies that shape EPA’s approach to screening pesticides. While all of the policies are significant, the requirements to consider cumulative and aggregate risk and the ten-fold safety factor for children’s health have important ramifications for risk assessments of many chemicals.

Cumulative risk requires that EPA consider the combined effects of exposures to multiple chemicals sharing a common mechanism of toxicity. Aggregate exposure brings issues of residential exposures and drinking water residues into the equation. The extra ten-fold safety factor impacts risk assessments affecting children’s health. A lower factor can be used, “. . . only if, on the basis of reliable data, such margin will be safe for infants and children.”⁷ In FY 2004, the Agency will continue applying its cumulative risk policy to pesticide registration and

Active and Inert Ingredients⁶

Pesticide products contain both "active" and "inert" ingredients. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) has defined the terms "active ingredient" and "inert ingredient," since 1947. An active ingredient is one that prevents, destroys, repels or mitigates a pest, or is a plant regulator, defoliant, desiccant or nitrogen stabilizer. By law, the active ingredient must be identified by name on the label together with its percentage by weight.

An inert ingredient is simply any ingredient in the product that is not intended to affect a target pest. For example, isopropyl alcohol may be an active ingredient and antimicrobial pesticide in some products; however, in other products, it is used as a solvent and may be considered an inert ingredient. The law does not require inert ingredients to be identified by name and percentage on the label, but the total percentage of such ingredients must be declared.

⁵ FIFRA Sec 3

⁶ FIFRA Sec 2(a); FIFRA Sec 2(m)

⁷ FFDCA Sec 408(b)(2)(C)

reregistration decisions. Research planned for FY 2004 will provide additional information on assessing and managing cumulative risks where appropriate, and the information will be used to enhance EPA's existing risk assessment policies.

EPA will continue to actively encourage and engage the pesticide industry, farmers and the public to participate in the implementation of FQPA. EPA uses common-sense strategies for reducing risk to acceptable levels while retaining pesticides of the greatest public value, including those employed in minor uses and integrated pest management needs. In FY 2004, EPA will continue to work with the pesticide industry and farmers to explore new pest management approaches and to provide a reasonable phase-out period for canceled pesticides. EPA will also continue its stakeholder consultation process through regular meetings with the Committee to Advise on Reassessment and Transition (CARAT), an advisory body composed of environmental/public interest groups; pesticide industry and trade associations; pesticide user, grower, processor and commodity organizations; public health organizations, including children's health representatives; Federal agencies; State, local and tribal governments; academia; consumers and the public.

States and industry submit requests for registration actions to meet rapidly changing or emerging needs, including petitions for temporary uses of pesticides to meet emergency conditions, and for research purposes. The Agency allows for the unpredictability of agricultural conditions and pest outbreaks and takes action to meet emerging needs. These actions include issuance of emergency exemptions under FIFRA sec. 18, which allows the use, for a limited time, of a pesticide not registered for that specific purpose. Emergency conditions could include controlling a new pest or the spread of a pest to new areas, or controlling an outbreak of a pest that poses a public health risk, such as the West Nile virus spread by migration. FIFRA addresses other special needs, including provisions to register products by states for specific local uses not Federally registered and provisions for experimental use permits (under FIFRA sec.5), which allow pesticide producers to test new pesticide uses outside the laboratory to generate information to apply for amendments to previously approved pesticides (e.g., to reflect label revisions or changed formulations for products already registered).

The Agency and USDA work collaboratively to ensure that minor use registrations receive appropriate support. EPA policy has defined minor uses as pesticide usage on crops grown on less than 300,000 acres. Minor crops account for about 40 percent of the total agricultural sales for the United States. Although minor use pesticides are of major significance in agricultural production and to growers and consumers, they produce relatively little revenue for their manufacturers, considering the cost of maintaining these registrations. Without these small-scale but vital pesticide uses, many of the fruits, vegetables, and ornamentals grown in the United States, worth billions of dollars, could not be produced successfully. In FY 2004, EPA and USDA will continue to work closely to meet the need for newer, reduced risk pesticides registered for minor uses. As needed, the Agency uses the data collected under USDA's Interregional Research Project No. 4 (IR-4) program to establish tolerances for minor uses and provides priority status for registrations for vulnerable crops and minor agricultural uses. IR-4 helps minor crop producers obtain tolerances and registrations for pest control products.

Bioengineered crops are playing an ever-increasing role in the agricultural marketplace. Each bioengineered product must be reviewed to ensure adequate safety to the public and

environment alike. As with any new technology, there is lively public and scientific debate of the best ways to incorporate the products into the market and the possible long-term implications for agriculture. EPA must keep abreast of new science and perform its traditional role of evaluating the types of organisms being used for the genetic modification, the stability of the genetic insert in the environment, and the potential exposures of workers and consumers to the biotechnology product. Other areas of concern include potential impacts on non-target organisms and the potential for pests to become resistant to the bioengineered product. The Agency will continue to work with industry and USDA on issues that arise from this major change in the agricultural industry.

The Plant Incorporated Protectant (PIP) Rule clarifies which genetically modified products are subject to review under FIFRA and FFDCRA and which ones are exempt. The rule also reaffirmed that the plant itself is still subject to USDA authorities, while PIPs are subject to EPA authorities. The rule ensures that genetically engineered PIPs meet Federal safety standards that EPA evaluates PIPs as rigorously as traditional pesticide registrations. In addition to the rule, EPA participates in the White House Agricultural Biotechnology Workgroup and works closely with FDA and with USDA's Animal Plant Health Inspection Service (APHIS), which also regulates biotechnology products. The three agencies (EPA, USDA, and FDA) discuss all major actions on PIP's. There are several new products coming into the EPA for review that are likely to be decisions made in FY 2004.

The Agency plays a key role in international biotechnology programs concerned with food safety sponsored by the Organization for Economic Cooperation and Development (OECD), the United Nations (UN), and the European Union (EU). Biotechnology products include new chemicals and chemical preparations, which may be used in food and feed, as well as genetically modified foods. The Agency is working with OECD and other stakeholders to improve dissemination of information on biotechnology products, regulations, guidelines, and safety issues. The use of biotechnology to modify plants so that they resist harmful insects or the effects of herbicides is likely to attract continued public scrutiny, particularly on issues such as allergenicity and gene transfer.

Homeland Security

Biological agents are potential weapons that could be exploited by terrorists against the United States. EPA's pesticides antimicrobial program has been very responsive to the anthrax crisis, meeting rapid timeframes while maintaining the pace of longer-term reviews. However, the complexities associated with the assessment and remediation work on anthrax, when dispersed as a weapon of terror, dramatically highlight the need for the Agency to improve its ability in detection and decontamination of biological agents. EPA proposes to conduct comprehensive scientific assessments of potential biological agents, develop test protocols to determine the safety and efficacy of antimicrobial products used against biological agents, and register new products or new uses of existing products as necessary. EPA will develop a timeline for prioritizing and implementing tests on technologies and products.

Using the Center for Disease Control's (CDC) category list of possible bio-agents as a starting point, the Agency proposes reviewing antimicrobials that may be effective against bio-agents in addition to anthrax. Based on experience with anthrax, reviews for other bio-agents

would require development of new models and protocols for defining a reasonable standard of efficacy, including determination if substantially different pathways and media for potential contamination should be addressed. The number of products whose efficacy is verified with new models and protocols, both new active ingredients and new uses, will vary depending on the organism in question but is likely to be fewer per bio-agent than for anthrax, which involved 37 products.

Reduced Risk Chemicals and Biopesticides

In FY 2004, EPA will continue to provide incentives to the pesticide industry to decrease risk levels from agricultural pesticides through the expedited regulatory review of reduced risk pesticides, including biopesticides. Reduced risk criteria include pesticides with reduced toxicity, potential to displace other chemicals posing potential human health concerns, reduced exposure to workers, low toxicity to non-target organisms, low potential for groundwater contamination, lower use rates than alternatives, low pest resistance potential, or high compatibility with integrated pest management and efficacy. The Agency is committed to expediting the registration of additional alternative products and in FY 2004, expects to register 13 new reduced risk pesticides.⁸

Reducing Risky Pesticides on Children's Foods

The following 19 foods that children commonly eat were surveyed for organophosphate and carbamate pesticides during 1994 through 1996: apples, apple juice, bananas, broccoli, carrots, celery, grapes, green beans (fresh, canned and frozen), lettuce, milk, oranges, peaches, potatoes, spinach, sweet corn (canned and frozen), sweet peas (canned and frozen), sweet potatoes, tomatoes, and wheat. By the end of 2004, regulatory actions by EPA, including expedited registration of safer pesticides, should result in a 25 percent reduction of occurrence of residues from carcinogenic and neurotoxic pesticides on these foods from 1994-1996 levels.

Reduce Agricultural Use of Potential Carcinogenic or Neurotoxic Pesticides

EPA is moving deliberately to minimize exposure from currently marketed pesticides with the highest potential to cause cancer or neurotoxic effects. In FY 2004, using the best available science and incorporating stakeholder concerns, EPA will continue to reduce risk from these pesticides through implementation of our decisions in the field, encouraging development of alternatives, and the expedited registration of alternatives. The Agency is especially conscious of the potential impacts on minor crop growers and integrated pest management programs and will continue to work with growers and registrants to focus attention on those situations where limited crop protection alternatives exist. FQPA emphasizes the need to protect children from adverse effects of pesticide exposure. EPA is targeting pesticides used on the foods children commonly eat. Through its regulatory efforts, EPA will contribute to reducing detections from pre-FQPA levels (see box). Also, as part of EPA's ongoing efforts to collect and analyze data to support improved performance measures, the Office of Pesticide Programs has begun examining and tracking pesticide sales and usage data in more detail.

⁸ USDA PDP, <http://www.ams.usda.gov/science/pdp/download.htm>

Overall pesticide use appears to be declining as well, based on estimates derived from sales figures, which show about a 15 percent decline between 1985 and 1999. Insecticides as a class tend to be acutely toxic pesticides, and their use is also declining. Acre-treatments using pesticides labeled 'danger for humans' has gone down by 43 percent between 1997 and 2001.⁹

FY 2004 Change from FY 2003 Request

EPM

- (+\$718,300, +2.0 FTE) This increase supports the registration of bio-agents and other products used against weapons of mass destruction. Resources will also be used to identify technologies and products to be tested for safety and efficacy.
- (+\$2,146,200) This increase reflects additional support for the Tolerance Reassessment Program.
- (-\$5,975,600, -66.5 FTE) Revenues from Pesticide Tolerance Fees will be substituted for appropriated funds in the Registration program. In addition, there are some funding realignments across objectives to more accurately portray our costs for the reregistration program.

S&T

- (+\$500,000) This increase will support laboratory improvements and development of test protocols to determine the safety and efficacy of products used against chemical and biological weapons.
- There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: SAFE FOOD

OBJECTIVE: REDUCE RISKS FROM PESTICIDE RESIDUES IN FOOD

Annual Performance Goals and Measures

Decrease Risk from Agricultural Pesticides

- | | |
|---------|---|
| In 2004 | Decrease adverse risk from agricultural uses from 1995 levels. |
| In 2003 | Decrease adverse risk from agricultural uses from 1995 levels and assure that new pesticides that enter the market are safe for humans and the environment, through ensuring that all registration action are timely and comply with standards mandated by law. |
| In 2002 | In FY 2002, EPA continued to register pest control products, including "safer" pesticides, thus ensuring that growers have an adequate number of pest control options available to them. |

⁹ EPA Pesticides Industry Sales and Usage 1998 and 1999 Market Estimates, August 2002, <http://www.epa.gov/oppbead1/pestsales>

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Register safer chemicals and biopesticides	107	118	131	Regist. (Cum)
New Chemicals	60	67	74	Regist. (Cum)
New Uses	2329	2679	3,079	Actions (Cum)
Reduction of detections on a core set of 19 foods eaten by children relative to detection levels for those foods reported in 1994-1996.	Data Not Avail			Reduced Detect.
Percentage of acre-treatments with reduced risk pesticides	7.5%	8.1%	8.5%	Acre-Treatments
Occurrences of residues on a core set of 19 foods eaten by children relative to occurrence levels for those foods reported in 1994-1996.		20	25%	reduc. of occur
Number of new uses for previously registered antimicrobial products			8	new uses

Baseline: The baseline for registration of reduced risk pesticides, new chemicals, and new uses, the baseline is zero in the year 1996 (the year FQPA was enacted). Progress is measured cumulatively since 1996. The baseline for acres-treated is 3.6% of total acreage in 1998, when the reduced-risk pesticide acres-treatments was 30,332,499 and total (all pesticides) was 843,063,644 acre-treatments. Each year's total acre-treatments, reported by USDA's National Agricultural Statistical Survey serve as the basis for computing the percentage of acre-treatments using reduced risk pesticides. Acre-treatments count the total number of pesticide treatments each acre receives each year. The baseline for residues on children's foods is occurrence on 33.5% of composite sample of children's foods in the baseline years 1994-1996. There are currently no products registered for use against other potential bio-agents (non-anthrax).

Baseline: There are currently no products registered for use against other potential bio-agents (non-anthrax).

Program Assessment Rating Tool

Pesticide Registration

As part of the Administration's overall evaluation of effectiveness of Government programs, the Pesticide Registration program was evaluated with the following specific findings:

1. The program has a clear mission and statutory authority, and it provides for the safe use of pesticides on a nationwide basis.
2. The program has established long-term goals but they are not adequate because the goals lack quantified baselines and/or performance targets and they need to be more outcome-focused.
3. The program regularly reviews overall progress toward annual goals and does make management decisions to address issues that impede progress.
4. The program does not use efficiency or cost effectiveness metrics to monitor program management or performance.
5. Generally the program has met its annual goals but it is unclear how achieving these annual targets leads to quantifiable progress toward the program's long-term goals. One new long-term efficiency goal that targets reductions in decision-making time has been proposed for this program by EPA, but further work is needed to finalize the goal and to develop appropriate annual targets to support it.

In response to these findings the Administration will:

1. Implement appropriate long-term measures.
2. Develop adequate efficiency and cost effectiveness measures to improve program performance and goal-setting.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Reduction in occurrences of carcinogenic and cholinesterase-inhibiting neurotoxic pesticide residues on a core set of 19 children's foods reported in 1994-1996

Performance Database: United States Department of Agriculture (USDA) Pesticide Data Program (PDP)

Data Source: Data collection is conducted by the states.

Methods, Assumptions and Suitability: The information is collected by the states and includes statistical information on pesticide use, food consumption, and residue detections, which provide the basis for realistic dietary risk assessments and evaluation of pesticide tolerance. Information is coordinated by USDA agencies and cooperating state agencies. Pesticide residue sampling and testing procedures are managed by USDA's Agricultural Marketing Service (AMS). AMS also maintains an automated information system for pesticide residue data and publishes annual summaries of residue detections.

QA/QC Procedures: The core of USDA's PDP's QA/QC program is Standard Operating Procedures (SOPs) based on EPA's Good Laboratory Practices. At each participating laboratory, PDP relies on a quality assurance (QA) unit which operates independently from the rest of the laboratory staff. Final QA procedures are provided by PDP staff responsible for collating and reviewing data for conformance with SOPs. PDP staff also monitors the performance of participating laboratories through proficiency evaluation samples, quality assurance internal reviews, and on site visits.

Data Quality Review: None

Data Limitations: Participation in PDP sites is voluntary. Sampling is limited to 10 states but designed in a manner to represent the food supply nationwide. The number of sampling sites and volume vary by state. Sampling procedures are described at the website, see reference below.

Error Estimate: Uncertainties and other sources of error are minor and not expected to have any significant effect on performance assessment. More information is available on the website.

New/Improved Data or Systems: These are not EPA data; thus improvements are not known in any detail at this time.

References: PDP Annual Reports, <http://www.ams.usda.gov/science/pdp/download.htm>;
<http://www.ams.usda.gov/process/>; CFR 40 Part 160; <http://www.epahome/Standards.html>

FY 2004 Performance Measures: Number of registrations of reduced risk pesticides registered (Register safer chemicals and biopesticides).

- **Number of new conventional pesticides registered (New Chemicals).**
- **Number of conventional new uses registered (New Uses).**

Performance Database: Pesticide Regulatory Action Tracking System (PRATS). PRATS is maintained by the Office of Prevention, Pesticides and Toxic Substances (OPPTS) and is designed to track regulatory data submissions and studies, organized by scientific discipline, which are submitted by the registrant in support of a pesticide's registration. Additionally, the program divisions maintain manual counts of the registrations of reduced risk pesticides. The information is provided to the Office Director's immediate office for consolidation and record keeping.

Data Source: The Office of Pesticide Programs (OPP) Staff (reviewers) update the status of the submissions and studies as they are received and as work is completed by the reviewers. The status indicates whether the application is ready for review, the application is in the process of review, or the review has been completed.

Methods, Assumptions and Suitability:

The measures are program outputs. When finalized they represent the program's statutory requirements to ensure: 1) that pesticides entering the marketplace are safe for human health and the environment and 2) when used in accordance with the packaging label present a reasonable certainty of no harm. While program outputs are not the best measures of risk reduction, they do provide a means for reducing risk in that the program's safety review prevents dangerous pesticides from entering the marketplace.

QA/QC Procedures: A reduced risk pesticide must meet the criteria set forth in Pesticide Registration Notice 97-3, September 4, 1997. Reduced risk pesticides include those which reduce the risks to human health; reduce the risks to non-target organisms; reduce the potential for contamination of groundwater, surface water or other valued environmental resources; and/or broaden the adoption of integrated pest management strategies, or make such strategies more available or more effective. In addition, biopesticides are generally considered safer (and thus reduced risk). All registration actions must employ sound science and meet the Food Quality Protection Act (FQPA) new safety standard. All risk assessments are subject to public and scientific peer review.

Data Quality Review: These are program outputs. EPA staff and management review the program outputs in accordance with established policy for the registration of reduced-risk pesticides as set forth in Pesticide Regulation Notice 97-3, September 4, 1997.

Data Limitations: None. All required data must be submitted for the risk assessments before the pesticide, including a reduced risk pesticide, is registered. If data are not submitted, the

pesticide is not registered. As stated above, a reduced risk pesticide must meet the criteria set forth in PRN 97-3 and all registrations must meet FQPA safety requirements. If a pesticide does not meet these criteria, it is not registered. If an application for a reduced risk pesticide does not meet the reduced risk criteria, it is reviewed as a conventional active ingredient.

Error Estimate: N/A

New/Improved Data or Systems: The OPPIN (Office of Pesticide Programs Information Network) consolidates various OPP program databases. Phased implementation of the OPPIN began in FY 2001 and will continue through FY 2003, after which the system will be reevaluated to ensure that it is meeting program needs.

References: FIFRA Sec 3(c)(5); FFDCA Sec 408(a)(2); EPA Pesticide Registration Notice 97-3, September 4, 1997

FY 2004 Performance Measure: Percentage of acre treatments with reduced risk pesticides.

Performance Database: Two non-EPA databases are used for this measure. One is the Doane Marketing Research data, the other is the United States Department of Agriculture's (USDA) National Agricultural Statistical Survey (NASS) database.

Data Source: Doane Marketing Research (a private sector research database) and USDA surveys (e.g., NASS data).

Methods, Assumptions and Suitability: A reduced-risk pesticide must meet the criteria set forth in Pesticide Registration Notice 97-3, September 4, 1997. Reduced-risk pesticides include those which reduce the risks to human health; reduce the risks to non-target organisms; reduce the potential for contamination of groundwater, surface water, or other valued environmental resources; and/or broaden the adoption of integrated pest management strategies or make such strategies more available or more effective. In addition, biopesticides are generally considered safer (and thus reduced-risk).

EPA's statistical and economics staff review data from Doane and NASS. Information is also compared to prior years for variations and trends as well as to determine the reasons for the variability.

QA/QC Procedures: All registration actions must employ sound science and meet the Food Quality Protection Act (FQPA) new safety standard. All risk assessments are subject to public and scientific peer review. Doane data and USDA's NASS data are subject to extensive QA/QC procedures, documented at their websites. Additionally, Doane and NASS information are compared as a cross-reference.

Data Quality Review: Doane data and USDA's NASS data are subject to extensive internal quality review, documented at their websites. EPA's statistical and economics staff review data from Doane and NASS. Information is also compared to prior years for variations and trends as well as to determine the reasons for the variability.

Data Limitations: Doane data are proprietary; thus in order to release any detailed information, the Agency must obtain approval. The NASS data include only major crops for annual surveys. Other crops are surveyed biennially. Additionally, all states are not included, although those that are a representative sample of the nation.

New/Improved Data or Systems: These are not EPA databases; thus improvements are not known in any detail at this time.

Error Estimate: Error estimates differ according to the data/database and year of sampling. Doane sampling plans and QA/QC procedures are available to the public at their website. More specific information about the data is proprietary and a subscription fee is required. Data are weighted and multiple regression procedure is used to adjust for known disproportionalities and ensure consistency with USDA and state acreage estimates. NASS data reliability and sampling/estimating techniques also are discussed at their website.

References: OPP Website; OPP Annual Report; Annual Performance Plan and Annual Performance Report, <http://www.ams.usda.gov/science/pdp/download.htm>; Doane Marketing Research, Inc.: <http://www.doanemr.com>; <http://www.usda.gov/nass/pubs> and <http://www.usda.nass/nass/nassinfo>; FFDCA Sec 408(a)(2); EPA Pesticide Registration Notice 97-3, September 4, 1997.

Coordination with Other Agencies

EPA coordinates with and uses information from a variety of Federal, state and international organizations and agencies in our efforts to protect the safety of America's food supply from hazardous or higher risk pesticides.

In May 1991, the United States Department of Agriculture (USDA) implemented the Pesticide Data Program (PDP) to collect objective and statistically reliable data on pesticide residues on food commodities. This action was in response to public concern about the effects of pesticides on human health and environmental quality. EPA uses PDP data to improve dietary risk assessment to support the registration of pesticides for minor crop uses.

PDP is critical to implementing the Food Quality Protection Act. The system provides improved data collection of pesticide residues, standardized analytical and reporting methods, and increased sampling of foods most likely consumed by infants and children. PDP sampling, residue, testing and data reporting are coordinated by the Agricultural Marketing Service using cooperative agreements with ten participating states representing all regions of the country. PDP serves as a showcase for Federal-State cooperation on pesticide and food safety issues.

FQPA requires EPA to consult with other government agencies on major decisions. Further, EPA, USDA and FDA work closely together using both a memorandum of understanding and working committees to deal with a variety of issues that affect the involved agencies' missions. For example, these agencies work together on residue testing programs and on enforcement actions that involve pesticide residues on food, and we coordinate our review of antimicrobial pesticides.

While EPA is responsible for making registration and tolerance decisions, the Agency relies on others to carry out some of the enforcement activities. Registration-related requirements under FIFRA are enforced by the states. The Department of Health and Human Services/Food and Drug Administration enforce tolerances for most foods and by the United States Department of Agriculture/Food Safety and Inspection Service for meat, poultry and some egg products.

Internationally, the Agency collaborates with the Intergovernmental Forum on Chemical Safety (IFCS), the CODEX Alimentarius Commission, the North American Commission on Environmental Cooperation (NACEC), the Organization for Economic Cooperation and Development (OECD) and the North American Free Trade Agreement (NAFTA) commission to coordinate policies, harmonize guidelines, share information, correct deficiencies, build other nations' capacity to reduce risk, develop strategies to deal with potentially harmful pesticides and develop greater confidence in the safety of the food supply.

One of the Agency's most valuable partners on pesticide issues is the Pesticide Program Dialogue Committee (PPDC), which brings together a broad cross-section of knowledgeable individuals from organizations representing divergent views to discuss pesticide regulatory, policy and implementation issues. The PPDC consists of members from industry/trade associations, pesticide user and commodity groups, consumer and environmental/public interest groups and others.

The PPDC provides a structured environment for meaningful information exchanges and consensus building discussions, keeping the public involved in decisions that affect them. Dialogue with outside groups is essential if the Agency is to remain responsive to the needs of the affected public, growers and industry organizations.

EPA relies on data from HHS to help assess the risk of pesticides to children. Other collaborative efforts that go beyond our reliance on the data they collect include developing and validating methods to analyze domestic and imported food samples for organophosphates, carcinogens, neurotoxins and other chemicals of concern. These joint efforts protect Americans from unhealthful pesticide residue levels.

The Agency will work with the full range of stakeholders: USDA, CDC, other Federal agencies, industry and the scientific community. Review of the agents that may be effective against anthrax has involved GSA, State Department, USAMRIID, FDA, CDC, EOSA, USPS, and others, and this effort will build on this network.

Statutory Authorities

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

Federal Food, Drug and Cosmetic Act (FFDCA)

Food Quality Protection Act (FQPA) of 1996

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Safe Food

Objective: Eliminate Use on Food of Pesticides Not Meeting Standards

By 2008, use on food of current pesticides that do not meet the new statutory standard of "reasonable certainty of no harm" will be eliminated.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Eliminate Use on Food of Pesticides Not Meeting Standards	\$65,650.7	\$64,524.2	\$75,583.6	\$11,059.4
Environmental Program & Management	\$53,660.0	\$52,478.3	\$62,288.6	\$9,810.3
Science & Technology	\$11,990.7	\$12,045.9	\$13,295.0	\$1,249.1
Total Workyears	448.7	439.0	445.5	6.5

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Endocrine Disruptor Screening Program	\$3,388.7	\$3,264.1	\$3,275.1	\$11.0
Facilities Infrastructure and Operations	\$4,575.2	\$5,154.0	\$6,311.8	\$1,157.8
Homeland Security-Critical Infrastructure Protection	\$500.0	\$0.0	\$0.0	\$0.0
Homeland Security-Preparedness, Response and Recovery	\$14.0	\$0.0	\$0.0	\$0.0
Legal Services	\$433.5	\$465.5	\$486.0	\$20.5
Management Services and	\$931.5	\$854.6	\$904.6	\$50.0

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Stewardship				
Pesticide Reregistration	\$27,170.8	\$38,592.4	\$41,207.7	\$2,615.3
Pesticide Residue Tolerance Reassessments	\$13,858.5	\$4,607.9	\$10,004.3	\$5,396.4
Planning and Resource Management	\$0.0	\$0.0	\$46.0	\$46.0
Research to Support FQPA	\$11,377.4	\$10,821.3	\$12,041.9	\$1,220.6
Science Coordination and Policy	\$315.1	\$764.4	\$1,306.2	\$541.8

FY 2004 Request

Pesticides licensing involves both registration of new chemicals and the review of older chemicals.¹⁰ This objective focuses on the review of older pesticides as well as some of the scientific effort involved in identifying potential endocrine disrupting chemicals. The reregistration and the tolerance reassessment programs look at older pesticides and review their safety in light of the latest science and the new safety standards mandated by FQPA.

During the Reregistration and the Tolerance Reassessment processes, EPA reviews data and studies submitted by registrants supporting the reregistration or the approved use on food of a pesticide in order to ensure that pesticides meet FQPA's stricter standards. During this review, the Agency conducts a risk assessment that forms the basis for the Agency's decisions and determines the safe residue that may remain on the food product (a tolerance) for a food use pesticide. Risk assessments involve a series of sophisticated analyses of the potential health and environmental effects resulting from exposure to a chemical through various means. FQPA brought a number of new analyses into these risk assessments.

Complete Active Ingredient and Product Reregistration

Through the Reregistration program, EPA will continue to review pesticides currently on the market to ensure that these also meet the FQPA health standard. Pesticides found not in compliance will be eliminated or otherwise restricted to minimize harmful exposure. The issuance of a Reregistration Eligibility Decision (RED) summarizes the health and environmental effects findings during the reregistration review of the chemical. These findings determine whether the products registered under this chemical are eligible for reregistration. In 2004, the Agency will complete 35 REDs. EPA plans to complete issuing REDs for active ingredients by FY 2006 and for inert ingredients by FY 2008.

Once the reregistration or tolerance reassessment analysis is performed, findings may call for modifications in ways the pesticides are used, in order to reduce risks. Options for risk

¹⁰ FIFRA Sec 3; FIFRA Sec 4 (i) (5)

reduction range from revocation of the tolerance to modifications in use such as re-entry intervals or application rates. For example, the pesticide could be applied in lower quantities, or less frequently, or at a greater distance from water bodies.

The FY 2004 request includes additional resources for reregistration of antimicrobials. EPA has made great strides in addressing FQPA requirements and incorporating them into its core programs. The Agency has met much shorter review periods for antimicrobials and virtually eliminated the backlog in this area, however, success in these and other areas has meant some trade-offs were necessary. Further, antimicrobials are different from other pesticides in that science issues, uses, constituencies and stakeholders differ from agricultural pesticides. Use patterns such as wood preservatives and antifouling paints have raised public health and environmental concerns. Also, for many antimicrobial products, (e.g., hospital disinfectants, swimming pool disinfectants, medical waste treatment products), product performance, i.e., efficacy, is an area where the Agency plays a major regulatory role. These differences mean it is difficult to leverage work on other pesticides to help make progress with antimicrobials. These new resources will support the antimicrobial tolerance reassessments required to meet the FQPA deadline for completing tolerance reassessments by August 2006 and for maintaining the established goal for reregistration.¹¹

Additional resources are also required for inert ingredients. There are 870 tolerance exemptions for pesticide inerts that must be reassessed as part of meeting the FQPA statutory deadline for completing tolerance reassessment by August 2006. There is no defined database for inert ingredients and new methods for evaluating inerts have had to be developed. EPA has developed an initial methodology for sorting the inerts to be reviewed and identified those for which no data exists. EPA is largely unable to process tolerances or tolerance exemptions for those inert ingredients unless there is a data base substantially similar to that of an active ingredient, but is examining other analytic methods. The proposed resources also will allow the application in FY 2004 of streamlined methods that were recently proposed for assessing the lower toxicity pesticide chemicals. In FY 2004, EPA will evaluate 100 of the existing 870 tolerance exemptions. Review of inert ingredients is crucial because these ingredients are sometimes more toxic than the active ingredients.

The FY 2004 President's Budget assumes the tolerance assessment and reassessment programs will be partially funded by fees to be collected under a revised Tolerance Fee rule. The FY 2004 request also includes a proposal to extend the Maintenance Fee through 2006, to provide stable funding for reregistration and expedited processing activities.

Registration Review

FQPA requires that EPA establish a process for periodic review of pesticide registrations with a goal of completing this process every 15 years. The registrations of all pesticides will be continuously updated with respect to current scientific data, risk assessment methodologies, program policies, and effective risk reduction measures, ensuring that they meet the most current health standards. In 2004, EPA will address comments on the proposed rule, develop final procedural regulations, and continue preparations to implement the new program.

¹¹ FIFRA Sec 4 (i) (5)

Implementation tasks include establishing and prioritizing registration review cases, developing internal procedures for conducting the program, developing information management procedures, and training staff on the objectives and procedures. As the reregistration program draws to a close, the new registration review program will continue to protect human health and the environment using the most current scientific standards. There are also provisions in FQPA that mandate ongoing review of certain tolerances, on a five year cycle, following the full reassessment process.

Reassessment of Existing Pesticide Residue Tolerances on Food

A tolerance is the maximum legal amount of a pesticide residue permissible on food. FQPA requires that EPA reassess within ten years the more than 9,721 pesticide tolerances existing in 1996. EPA met its second statutory deadline to complete reassessment of 66 percent of the existing tolerances by August 2002. The final tolerance reassessment deadline requires reassessment of 100 percent of these tolerances by August 2006. In FY 2004, the Agency will continue its reassessment of these tolerances completing approximately a cumulative 78 percent.

The risk assessment is the basis for decision-making on reregistration and tolerance reassessment and includes consideration of the amounts and types of food people eat and how widely the pesticide is used (that is, how much of the crop is actually treated with the pesticide). The risk assessment also includes chemistry, toxicity and exposure information. EPA obtains data from a wide variety of sources including USDA surveys on types and quantities of foods people eat, FDA residue monitoring, and United States Geological Survey information on pesticide levels in ground, surface and drinking water. The risk assessment and adjunct analyses determine the outcomes for the tolerances on food. FQPA requires new assessment analyses, looking at both aggregate risk and cumulative exposures to pesticides with a common mechanism of toxicity. Draft risk assessments go through both scientific peer review and a public review process. The science and policies behind these assessments is complex and the standards developed will impact many pesticides on the market. In particular, the cumulative risk policy, which will impact chemical groups of pesticides such as organophosphates and carbamates, was completed late in 2002, and full implementation will occur in FY 2003 and FY 2004. As new research results are obtained, EPA will update and enhance the existing cumulative risk policy as appropriate to make sure risk assessments maintain pace with advancing science.

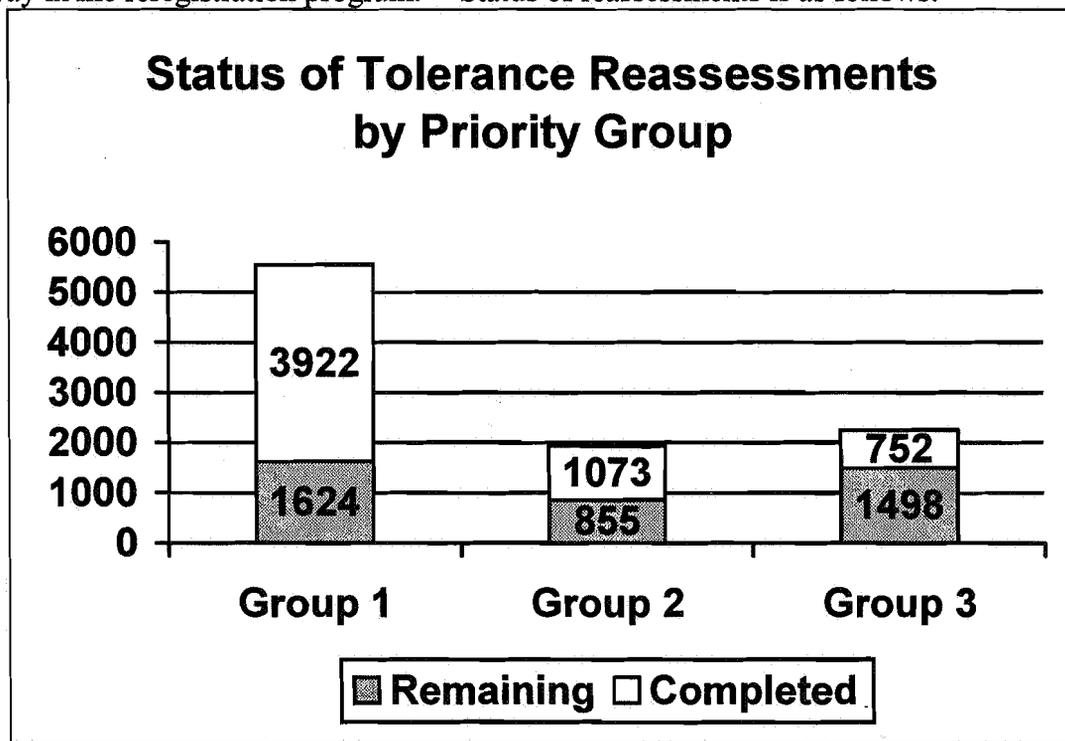
As mandated by FQPA, the Agency continues to ensure that sound science is applied consistently in our pesticide reviews and also that this process includes stakeholder and scientific community input to discuss the policies and their impacts. The Agency has worked extensively with stakeholders through the Pesticide Program Dialogue Committee (PPDC) and the Committee to Advise on Reassessment and Transition (CARAT) to ensure transparency in decision-making and a fuller understanding of the implications for growers, producers and the public. EPA will continue to encourage transition to safer pesticides, and to coordinate closely with USDA, industry and commodity groups in finding alternatives and sharing information.

The cumulative risk policy is expected to impact the decisions on many older, less expensive pesticides, affecting farmers' available choices. As an example, the Agency is completing review of a group of higher risk pesticides, the organophosphates, which, because of

their wide use, heavily affect the farming community. In FY 2004, the Agency expects to review the carbamates, among other chemicals. Carbamates are a broad-spectrum, older (less expensive) class of pesticides, including many insecticides that are also often used for mosquito control. To address the issues around replacement and review of these widely used pesticides, the Agency and USDA collaborated in development and implementation of a review process, which greatly expanded public participation. In 2004, this process will continue to be reviewed, improved and expanded as necessary as we continue our review of other groups of high risk, older pesticides.

Protecting children's health is of central concern under FQPA, which provides for an additional safety factor to be applied to certain pesticides to adjust for children's higher sensitivity to chemical exposure. EPA understands the importance of protecting children's health and as such has identified and given priority to the tolerance reassessments that affect the top 20 foods eaten by children. The Agency projects completion of 83 percent of this set of tolerance reassessments in FY 2004. Another, more general FQPA approach to reducing risks more quickly is to give priority to the review tolerances or exemptions that appear to pose the greatest risk to public health. As a result, EPA divided all pesticide chemicals into three priority groups, published in the Federal Register in the first year of the FQPA provisions.

There are 9,721 tolerances that must be reassessed. Tolerances for the highest risk pesticides are in Priority Group 1, which includes organophosphates, carbamates, and probable carcinogens, among other high-risk chemicals, and totals 5,546 tolerances. Group 2 includes some carcinogens and other tolerances, and Group 3 includes the remaining pre-FQPA and post-1984 pesticides. Some tolerances in all groups have been reassessed as part of the work already underway in the reregistration program.¹² Status of reassessments is as follows:



¹² EPA FRN "Raw and Processed Food Schedule for Pesticide Tolerance Reassessment; Notices" Aug 4, 1997

Status of Tolerance Reassessment by Priority Group (as of 8/5/02)

- Group 1: 3,922 reassessments out of 5,546 (29 percent remaining and 71 percent reassessed)
- Group 2: 1,073 reassessments out of 1,928 (44 percent remaining and 56 percent reassessed)
- Group 3: 1,498 reassessments out of 2,250 (33 percent remaining and 67 percent reassessed)

Endocrine Disruptors

Fish and wildlife in some areas of the world have been affected by chemicals that interfere with the endocrine system resulting in abnormal development, low fertility and greater susceptibility to disease. The link to human disease is less clear, particularly at low ambient environmental levels. Effects have been seen after high exposures. Since the human endocrine system helps guide development, growth, reproduction and behavior, possible endocrine disruption is an important issue, especially for children. The concern that chemicals may affect the endocrine system of humans led to the inclusion of a provision in the Food Quality Protection Act (FQPA) mandating that EPA test pesticides for endocrine disrupting effects on human health. Endocrine Disrupting Chemicals are also addressed in the Safe Drinking Water Act Amendments of 1996.

Work on pesticide and chemical endocrine disruptors crosses two EPA goals, relating to both pesticides and all other toxic chemicals (Goals 3 and 4). For details concerning the Endocrine Disruptor Program and its screening activities, consult Goal 4, Objective 3. For Goal 3, in 2004, the Agency will continue its efforts to develop alternative, non-animal methods that can be validated and incorporated into its program.

Research

The Food Quality Protection Act of 1996 (FQPA) requires EPA, in its assessment of pesticide safety, to consider aggregate exposure from dietary and all other non-occupational sources and the cumulative effects of pesticides that have a common mechanism of toxicity. Implementation of the directive required the Agency to revisit some of its existing policies relating to the determination and regulation of dietary risk and resulted in the identification of a number of areas with significant research needs.

Tools such as methods, data, models, risk assessment guidance, and toxicity testing methods and protocols are needed for assessing aggregate and cumulative risks across the exposure-to-dose-to-effects continuum that result from multimedia, multipathway exposures to pesticides with like mechanisms of action. Research is also needed to understand the magnitude and extent of aggregate and cumulative exposures of pesticides used on food, in drinking water, and through non-occupational exposures in and around residential environments and other

indoor/outdoor environments. Special emphasis will be placed on characterizing exposures and the corresponding critical factors influencing these exposures in those environments where young children spend the majority of their time. EPA has research in all of these areas and is expected to continue this research into the future to support pesticide registration and reregistration activities and to provide data for risk assessments.

In order to address the risks surrounding pesticides, health effects research is needed to understand dose-response relationships and use this understanding to develop new and improve existing methods to evaluate the effects of cumulative exposures to pesticides and toxic chemicals, including both long-term exposures and multiple acute exposures. Specific objectives of this work will be to further study whether exposure to multiple pesticides with a similar mode of action produces additive and/or non-additive interactions and if effects vary between adult and juvenile animals, which will then be extrapolated to humans.

Exposure research will develop new and enhance existing tools to estimate aggregate and cumulative exposures of young children to pesticides and other toxic chemicals. Research will address major data gaps and uncertainties associated with exposure assessment requirements for the FQPA. Currently, research is aimed at developing data and models for aggregate assessments to pesticides. In FY 2004, work will extend these concepts to cumulative assessments of pesticides and toxics. Research results will be used by the Agency to better characterize, assess, and manage aggregate and cumulative exposures to pesticides and toxics. EPA will also use these results to better understand and develop programs to reduce children's exposures to pesticides and other environmental pollutants.

In addition, exposure modeling research will focus on improving and integrating EPA's exposure to dose models, analyzing current aggregate exposure data from EPA-sponsored aggregate exposure studies to identify remaining exposure data gaps, and developing a research plan for addressing high priority cumulative pesticide exposure issues.¹³ The current models will be upgraded to include new modules for gastrointestinal and dermal exposure to reflect the latest scientific data. Also, the results of EPA's aggregate exposure studies will be statistically analyzed to improve our understanding of the key factors influencing aggregate exposures.

The Agency will continue its efforts to address uncertainties in the areas of intermittent exposure and cumulative risk to pesticides. Additionally, EPA will continue to develop tools for characterizing and combining exposures and assessing exposure-dose-response relationships for pesticides with different exposure patterns with an emphasis on enhancing the foundation for cumulative risk assessment methodology. The Agency will also develop improved risk management strategies and tools for reducing potential health risks to children and other highly exposed populations.

In FY 2004, a major population-based field study that focuses on young children's (ages 0-3 years old) aggregate exposure to pesticides in homes, day care centers and schools will continue. This study will be completed in FY 2005 with delivery of major products (e.g., validated protocols, statistical analyses) starting in FY 2005 and continuing through FY 2007.

¹³ Exposure-to-dose models include Stochastic Human Exposure Dose Simulation Modeling and Exposure Related Dose Estimating Model. Aggregate exposure models include Children's Total Exposure to Pesticides and Other Persistent Pollutants (CTEPP) and National Human Exposure Assessment Survey (NHEXAS).

Study results will be used to: 1) evaluate and refine a protocol for measuring aggregate exposure for children of different age groups; 2) verify those pathways and activities that represent the highest exposures to children; 3) generate high quality distributional data on exposure concentrations, estimated exposures, and exposure factors; 4) evaluate age and developmental differences to exposures; 5) develop a measurement database for model evaluations and risk assessments; and 6) provide input into the design and implementation of the National Children's Study.

EPA will complete an approach for using pharmacokinetic data and models in risk assessment as a foundation for comprehensive guidance for conducting risk assessments under FQPA. The approach and guidance will provide analysis and recommendations for use of physiologically-based pharmacokinetic models and data in risk assessment, addressing relevant issues such as age-related dosimetry and extrapolation between species and age groups, dose assessment for aggregate and cumulative risk assessment, databases relevant to toxicokinetic approaches, and risk assessment methods that reduce the use of default assumptions.

In FY 2004, new risk management research will begin developing standard protocols for assessing treatment effects on pesticide residues in drinking water, and testing the efficiency of drinking water treatment and the formation of degradation bi-products for pesticide classes of high priority that are not on the Candidate Contaminant List (CCL). Information collected from these protocols will be used in aggregate and cumulative exposure assessments.

Additionally, the Agency will collect longitudinal activity and dietary consumption data on sub-populations (e.g., children, elderly) for modeling daily/seasonal variability inherent in human activities and dietary consumption patterns. This research will produce data that are not captured in previous and planned dietary or population surveys. Data collected will be used to support EPA's risk assessments.

Recognizing the complexity associated with determining the cumulative risk for a given set of exposure conditions, research will use a systematic approach that starts with less complex paradigms, such as risk from aggregate exposure to a single chemical or class of chemicals with a common mode of action which is present in multiple pathway, and build towards the more complex, including consideration of different temporal dimensions of exposure. A better understanding of these relationships will also focus and guide risk management decisions and will allow for more accurate predictions if determinants change.

FY 2004 Change from FY 2003 Request

EPM

- (+\$1,000,000) This increase will be directed to increased reregistration of antimicrobial pesticides and associated tolerance reassessments. Reregistration of antimicrobials is critical to meeting our final statutory deadlines for tolerance reassessment.
- (+\$400,000) This increase will fund expanded effort to review inert ingredients needed to meet the FQPA tolerance reassessment deadlines.

- (+\$1,376,600, +1.8 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

Research

S&T

- (+\$415,400) This increase reflects a redirection from Drinking Water research (Goal 2) to a research effort that will collect longitudinal activity and dietary consumption data on sub-populations (e.g., children, elderly) for modeling daily and seasonal variability inherent in human activities. This research will produce data that are not captured in current dietary or population surveys (e.g., NHANES) and will improve our ability to meet performance commitments in support of FQPA.
- (+\$130,000) This increase reflects a redirection from socioeconomics research to new risk management research that will begin developing standard protocols for testing the efficiency of drinking water treatment and assessing treatment effects on pesticide residues in drinking water. This research will focus on pesticide classes of high priority that are not on the CCL.
- (-\$87,570, -0.9 FTE) These workyears are being redirected to support the Agency's Homeland Security Strategic Plan in the area rapid risk assessment research (Goal 8)
- There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: SAFE FOOD

OBJECTIVE: ELIMINATE USE ON FOOD OF PESTICIDES NOT MEETING STANDARDS

Annual Performance Goals and Measures

GOAL: SAFE FOOD

OBJECTIVE: ELIMINATE USE ON FOOD OF PESTICIDES NOT MEETING STANDARDS

Annual Performance Goals and Measures

Reassess Pesticide Tolerances

- In 2004 Ensure that through on-going data reviews, pesticide active ingredients and the products that contain them are reviewed to assure adequate protection for human health and the environment, taking into consideration exposure scenarios such as subsistence lifestyles of Native Americans.
- In 2003 Assure that pesticides active ingredients registered prior to 1984 and the products that contain them are reviewed to assure adequate protection for human health & the environment. Also consider the unique exposure scenarios such as subsistence lifestyles of Native Americans in regulatory decisions.
- In 2002 Reregistration efforts delayed to focus on reviewing and testing pesticides against anthrax.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Tolerance Reassessment	66.9	68%	78%	Tolerances(Cum)
Reregistration Eligibility Decisions (REDs)	72.7%	76%	81.7%	Decisions (Cum)
Product Reregistration	307	400	750	Actions
Tolerance reassessments for top 20 foods eaten by children	65.6	75%	83%	Tolerances(Cum)
Number of inert ingredients tolerances reassessed			100	tolerances

Baseline: The baseline value for tolerance reassessments is the 9,721 tolerances that must be reassessed using FQPA health and safety standards. In FY2004, EPA plans to reassess 1,050 additional tolerances. The baseline for REDs is the 612 REDs that must be completed. In FY2004, EPA plans to complete 35 REDs. The baseline for product reregistration is under development. The baseline for inert tolerances is 870 that must be reassessed. The baseline for the top 20 foods eaten by children is 893 tolerances that must be reassessed.

Program Assessment Rating Tool

Pesticides Reregistration

As part of the Administration's overall evaluation of effectiveness of Government programs, the Pesticides Reregistration program was evaluated with the following specific findings:

- The program is the only entity that reviews existing pesticides to ensure they keep pace with advancing safety standards. The program has a clear mission and statutory authority.
- The program has established long-term goals but they are not adequate because the goals lack quantified baselines and/or targets and because they need to be more outcome-focused.
- The program regularly reviews progress toward annual goals and does make management decisions to address issues that impede progress but the program does not use efficiency or cost effectiveness measures to monitor program management and performance.
- EPA has proposed a long-term efficiency goal for this program that targets reductions in decision-making time but further work is needed to finalize the goal and to develop appropriate annual targets to support it.
- The program has met statutory deadlines but does not always meet annual goals and it is unclear how achieving annual targets leads to quantifiable progress toward the program's long-term goals. Progress toward future deadlines will require additional work on antimicrobial pesticides.

As a result of this review, the Administration:

- Recommends providing an additional \$1.0 million for antimicrobial pesticides and \$0.5 million for inerts reregistration activities.
- Will implement appropriate long-term performance measures, improved annual targets, and adequate long and short term efficiency measures.

Verification and Validation of Performance Measures

FY 2004 Performance Measures:

- **Number of Tolerance Reassessments issued.**
- **Number of Reregistration Eligibility Decisions (REDs) issued.**
- **Number of Product Reregistration decisions issued.**
- **Tolerance Reassessments for top 20 foods eaten by children**
- **Number of inert ingredients tolerances reassessed.**

Performance Database: Pesticide Regulatory Action Tracking System (PRATS). PRATS is maintained by the Office of Prevention, Pesticides and Toxic Substances (OPPTS) and is designed to track regulatory data submissions and studies, organized by scientific discipline, which are submitted by the registrant in support of a pesticide's registration. Additionally, the program divisions maintain manual counts of the registrations of reduced risk pesticides. The information is provided to the Office Director's immediate office for consolidation and record keeping.

Data Source: Office of Pesticide Programs' reviewers. **Methods, Assumptions and Suitability:** The measures are program outputs which represent the program's statutory requirements to ensure that pesticides entering the marketplace are safe for human health and the environment and when used in accordance with the packaging label present a reasonable certainty of no harm. While program outputs are not the best measures of risk reduction, they do provide a means for reducing risk in that the program's safety review prevents dangerous pesticides from entering the marketplace.

QA/QC Procedures: All registration actions must employ sound science and meet the Food Quality Protection Act (FQPA) new safety standard. All risk assessments are subject to public and scientific peer review.

Data Quality Review: Management reviews the program counts and signs off on the decision document, which is then forwarded to the Office Director.

Data Limitations: None known.

Error Estimate: N/A. There are no errors associated with count data.

New/Improved Data or Systems: The OPPIN (Office of Pesticide Programs Information Network) consolidates various Pesticides program databases. Phased implementation of the OPPIN began in FY 2001 and will continue through FY 2003, after which the system will be reevaluated to ensure that it is meeting program needs.

References: Office of Pesticide Programs (OPP) Website; OPP Annual Report; Annual Performance Plan and Annual Performance Report

Coordination with Other Agencies

USDA supplies EPA with important data on food consumption, pesticide use and pesticide residues on foods. The data are used in making reregistration and tolerance setting decisions. USDA's Pesticide Data Program (PDP) collects pesticide residue data through the cooperation of 10 participating states. FDA monitors food imports and also conducts the Total Diet Study, monitoring pesticide residues present in prepared food. The states provide support services in collection and testing of commodities for pesticides using uniform national standard operating procedures.

EPA also actively solicits advice and comments on the implementation of pesticide programs from key stakeholders and the public. EPA works with other government officials, regulated industry, agricultural and other user groups, food processors, academia, environmental and public interest groups, the international community and the media to reach all interested parties.

In implementing FQPA, EPA has consulted with key constituencies on a wide range of critical issues. Standing committees that are providing, or have provided advice to EPA include:

- The Endocrine Disruptors Screening and Testing Advisory Committee (EDSTAC)—This committee was established to give advice and counsel on developing strategy to screen and test endocrine disrupting chemicals and pesticides. The committee included representatives of industry, state and Federal government, public health, environmental, labor organizations, small businesses and academia. In 2001, a new Endocrine Disruptor Methods Validation Subcommittee was established under the National Advisory Committee for Environmental Policy and Technology (NACEPT) to provide guidance regarding the design, conduct and interpretation of studies to validate the endocrine disruptor screening and testing program. The Subcommittee members represent a wide range of stakeholders drawn from the scientific community as well as Federal and non-profit organizations.
- The Pesticide Program Dialogue Committee (PPDC), a previously chartered group designed to assist EPA in making decisions related to pesticide regulation, consists of a diverse group of representatives with a broad range of interests. The PPDC will provide EPA with continuing advice on implementation of FQPA.

- EPA's FIFRA Science Advisory Panel (SAP) and Science Advisory Board (SAB) provide independent scientific peer review.
- The State FIFRA Issues Research and Evaluation Group (SFIREG) allows state input and comments from the public.
- The Consumer Labeling Initiative (CLI) was established to learn how to make important health, safe use and environmental information on household product labels easier to find, read, understand and use--includes members from EPA, industry, other Federal and state agencies, and private groups.
- Committee to Advise on Reassessment and Transition (CARAT). The purpose of CARAT is to provide advice and counsel to the Administrator of EPA and the Secretary of Agriculture regarding strategic approaches for pest management planning and tolerance reassessment for pesticides as required by the Food Quality Protection Act of 1996. CARAT is preceded by the Tolerance Reassessment Advisory Committee.

Research

The research program of the National Institute of Environmental Health and Safety (NIEHS) is closely allied with that of EPA's in studying the impact of environmental contaminants on public health. Under their extramural programs, EPA and NIEHS jointly sponsor Centers for Children's Environmental Health and Disease Prevention Research. The centers conduct research to improve detection, treatment, and prevention of environmentally related diseases in children.

The National Institute for Child Health and Human Development (NICHD) supports research on the reproductive, neurobiological, developmental, and behavioral processes that determine and maintain the health of children and adults. The NICHD program includes research on the effects of exposure to environmental agents on human development. NICHD, EPA, CDC, and other Federal agencies are designing the National Children's Study, a large longitudinal epidemiology study of children's exposure to environmental agents. EPA and NICHD jointly sponsor research on genetic susceptibility and variability of human malformations. EPA's efforts in this area focus on identifying environmental agents that cause birth defects and other developmental disorders, the molecular mechanisms of birth defects, and how to use mechanistic and other data in the risk assessment process.

The National Cancer Institute's (NCI) Agricultural Health Study (AHS) is a large epidemiology study of cancer in farm workers and their families. EPA is participating in the AHS through an exposure study of a subgroup of participants. CDC's National Center for Health Statistics (NCHS) is conducting the fourth National Health and Nutrition Examination Survey (NHANES IV), a national survey of health and nutrition. The NHANES surveys have about 30,000 respondents and include sufficient numbers of children in selected age ranges and other potentially sensitive subgroups to allow statistical inferences about their health, nutrition, and food intake, and the concentrations of some environmental contaminants in their blood and urine. EPA is collaborating with NCHS to collect information on children's exposure to pesticides and other environmental contaminants. NHANES has been conducted since 1971.

Statutory Authorities:

Federal Fungicide, Insecticide and Rodenticide Act (FIFRA)

Federal Food, Drug and Cosmetic Act (FFDCA)

Food Quality Protection Act (FQPA) of 1996

Toxic Substances Control Act (TSCA)

Goal 4: Preventing Pollution

Environmental Protection Agency
2004 Annual Performance Plan and Congressional Justification
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Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems

Strategic Goal: Pollution prevention and risk management strategies aimed at eliminating, reducing, or minimizing emissions and contamination will result in cleaner and safer environments in which all Americans can reside, work and enjoy life. EPA will safeguard ecosystems and promote the health of natural communities that are integral to the quality of life in this nation.

Resource Summary (Dollars in thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems	\$323,441.9	\$326,651.9	\$346,340.6	\$19,688.7
Reduce Public and Ecosystem Risk from Pesticides	\$56,169.1	\$55,409.8	\$57,313.1	\$1,903.3
Reduce Risks from Lead and Other Toxic Chemicals	\$37,745.8	\$36,355.9	\$38,722.5	\$2,366.6
Manage New Chemical Introduction and Screen Existing Chemicals for Risk	\$76,449.4	\$77,538.2	\$81,531.2	\$3,993.0
Ensure Healthier Indoor Air.	\$40,290.3	\$40,322.7	\$42,380.4	\$2,057.7
Facilitate Prevention, Reduction and Recycling of PBTs and Toxic Chemicals	\$48,461.0	\$46,115.9	\$49,958.2	\$3,842.3
Assess Conditions in Indian Country	\$64,326.3	\$70,909.4	\$76,435.2	\$5,525.8
Total Workyears	1,174.7	1,193.9	1,188.9	-5.0

Background and Context

The underlying principle of the activities in this goal is the application of pollution prevention. Preventing pollution before it may harm the environment or public can be cheaper than cleanup and remediation that may be more costly. EPA uses a number of approaches to protect public health and the nation's ecosystems from the risks of exposure to pesticides and/or toxic chemicals.

While EPA continues to implement “the reasonable certainty of no harm” standard mandated by the Food Quality Protection Act (FQPA) in its regulatory decisions, it also works with pesticide users on adopting less toxic methods of pest management that reduce or eliminate toxic pesticides entering indoor and outdoor environments.

Regarding industrial emissions of toxic chemicals, in 2000, TRI facilities reported 7.1 billion pounds of TRI reported chemicals released to the environment, 3.2 billion pounds recovered for energy and 14.3 billion pounds of waste treated.¹ This represents a decrease of eight percent or 0.6 billion pounds over the previous year. Reducing waste, and reducing the toxic chemicals that are used in industrial processing, protects the environment and also improves efficiency, thereby lowering costs for industry.

Pollution prevention involves changing the behavior of those that generate the pollution and fostering the wider use of preventive practices as a means to achieve cost effective, sustainable results. For example, the Design for the Environment and Green Chemistry programs strive to change the behavior of chemists and engineers to incorporate pollution prevention and environmental risk considerations in their daily work. The Strategic Agricultural Partnership Initiative and the Pesticide Environmental Stewardship Program cooperate with USDA, States, and non-governmental organizations to demonstrate with farmers integrated pest management strategies that reduce pesticide residues in the environment.

In Goal 4, the Agency targets certain chemicals of high risk as well as the full range of pollutants addressed by the pollution prevention program. Many chemicals are particularly toxic to children. For instance, at high levels, lead damages the brain and nervous system and can result in behavioral and learning problems in children.² Despite a dramatic reduction in lead exposure among young children over the last twenty years due in large part to reduction in United States use of leaded gasoline, there were still approximately 900,000 children in the United States with elevated blood lead levels in the early 1990's, due primarily to exposure to lead-based paint and dust.³ Data from the Center for Disease Control's (CDC's) 2000 National Health and Nutrition Evaluation Survey (NHANES), such as mean and median blood lead levels in the general United States population, indicate that Federal, State, and Tribal programs to reduce childhood lead poisoning from exposure to lead-based paint and dust have succeeded in lowering blood-lead levels from the early-1990's levels. New data released by CDC in January 2003 indicate that the national incidence of elevated lead blood levels among children may now be approximately 400,000 cases, based on combined 1999 and 2000 samples. Collaboration among partners continues in an effort to further reduce or eliminate this preventable condition.

On other fronts, exposure to asbestos, polychlorinated biphenyls (PCBs) and some pesticides in our buildings and in the environment poses risks to humans as well as wildlife.⁴

¹ 2000 Toxic Release Inventory (TRI) Public Data Release - Executive Summary (EPA 260 S 02 001).
<http://www.epa.gov/tri/tridata/tri00/index.htm>

² Centers for Disease Control, National Center for Health Statistics, National Health and Nutrition Examination Survey: 1999–2002. Available at <http://www.cdc.gov/nchs/nhanes.htm>

³ Centers for Disease Control, National Center for Health Statistics, National Health and Nutrition Examination Survey: 1999–2002. Available at <http://www.cdc.gov/nchs/nhanes.htm>

⁴ Centers for Disease Control, National Center for Health Statistics, National Health and Nutrition Examination Survey: 1999–2002. Available at <http://www.cdc.gov/nchs/nhanes.htm>

Pesticides and chemicals that may act as endocrine disruptors at ambient levels is an area of increased concern for human health and the environment. For other common chemicals, risks may not be known. The screening and testing of chemicals about to enter the market, combined with the review of the most common chemicals already in use through the Chemical Right-to-Know Program, fills critical gaps in our knowledge about the effects of chemicals on human health and the environment.

Under Federal environmental statutes, the Agency has responsibility for assuring human health and environmental protection in Indian country. Since 1984, EPA policy has been to work with tribes on a government-to-government basis that affirms the vital trust responsibility that EPA has with every Federally-recognized Tribal government. EPA endeavors to address Tribal environmental priorities, ensure compliance with environmental laws, provide field assistance, assure effective communication with tribes, allow flexibility in grant programs, and provide resources for Tribal operations.

Means and Strategy

The diversity and sensitivity of America's environments (communities, homes, workplaces and ecosystems) require EPA to adopt a multi-faceted approach to protecting the public from the potential threats posed by pesticides, toxic chemicals and other pollutants. The underlying principle of the activities in this goal is the application of pollution prevention practices, which can be cheaper and smarter than cleanup and remediation, as evidenced by the high cost of Superfund, Resource Conservation and Recovery Act (RCRA), and Polychlorinated Biphenyls (PCB) cleanups. Pollution Prevention (P2) involves changing the behavior of those that cause the pollution and fostering the wider use of preventive practices as a means to achieve effective, sustainable results.

Under this Goal, EPA ensures that pesticides and their application methods do not present unreasonable risks to human health, the environment, and ecosystems. In addition to the array of risk-management measures specified in the registration authorities under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) for individual pesticide ingredients, EPA has specific programs to foster worker and pesticide-user safety, ground-water protection, and the safe use of pesticides and other pest control methods. These programs work to ensure the comprehensive protection of the environment and wildlife, endangered species in particular, and to reduce the contribution of pesticides to ecological threats such as pollutant loading in select geographic areas. EPA is also addressing emerging threats such as endocrine disruptors by developing and implementing new screening technologies to assess a chemical's impact on hormonal activity.

Within the pesticide program, EPA pursues a variety of field activities at the regional, State, Tribal and local levels, including the promotion of pesticide environmental stewardship and Integrated Pest Management (IPM). States and tribes are vital partners in our work to implement FQPA. The voluntary partnerships and outreach programs that help farmers transition away from the riskier products are often catalyzed by State participation. These programs, combined with the availability of newer and safer pesticides, are having a real impact. In 2004 we expect at least 8.5 percent of acre-treatments will use reduced-risk pesticides. We

are seeing a reduction in wildlife impacts from pesticides as well, and in 2004 we project an additional five percent reduction in reported incidents of wildlife mortalities, from the 1995 level. That means fewer bird casualties and fewer fish kills. The accumulation of these improvements will mean safer food, improved biodiversity, and a cleaner environment.

The Agency remains committed to safeguarding our Nation's communities, homes, workplaces and ecosystems. Preventing pollution through regulatory, voluntary, and partnership actions -- educating and changing the behavior of the public -- is a sensible and effective approach to sustainable development while protecting our nation's health. Two groups with significant potential to effect environmental changes are industry and academia. In the past decade, the Agency has successfully pursued a number of pollution prevention programs with both of these groups, including the groundbreaking 33/50 Program, which in 1991 introduced voluntary collaboration into EPA's environmental protection efforts, and the Presidential Green Chemistry Challenge Award, which stimulates industry and academia toward the development of innovative new and improved industrial chemicals and processes. The Agency continues to expand its use of voluntary mechanisms to leverage pollution prevention, focusing on the health care service sector in fostering the American Hospital Association's Hospitals for a Healthy Environment partnership program, which have more than 2,000 participants in 2004. Likewise, improved understanding of the potential risks to health from airborne indoor toxic chemicals will strengthen our ability to reduce residents' exposure through voluntary changes in behavior and potential product reformulation.

Preventing pollution through partnerships is also central to EPA's Chemical Right-to-Know Program (ChemRTK), which has already started providing the public with information on the basic health and environmental effects of the 2,800 high production volume (HPV) chemicals in the United States (chemicals manufactured in or imported into the United States in quantities of at least one million pounds annually). Most residents come into daily contact with many of these chemicals, yet relatively little is known about their potential impacts. Getting basic hazard testing information on large volume chemicals is the focus of the "HPV Challenge Program," a voluntary program challenging industry to develop chemical hazard data critical to enabling EPA, State, tribes, and the public to screen chemicals already in commerce for any risks they may be posing.

EPA has two major strategies to meet its human health objective for indoor air quality: increasing public awareness and increasing partnerships with non-governmental and professional entities. EPA raises public awareness of actual and potential indoor air risks so that individuals can take steps to reduce exposure. Outreach activities, in the form of educational literature, media campaigns, hotlines, and clearinghouse operations, provide essential information about indoor air health risks not only to the public, but to the professional and research communities as well. Underpinning EPA's outreach efforts is a strong commitment to environmental justice, community-based risk reduction, and customer service. Through partnerships with EPA disseminates multi-media materials encouraging individuals, schools, and industry to take action to reduce health risks in their indoor environments. In addition, EPA uses technology transfer to improve the ways in which all types of buildings, including schools, homes, and workplaces, are designed, operated, and maintained. To support these voluntary approaches, EPA incorporates the most current science available as the basis for recommending ways that people can reduce exposure to indoor contaminants.

EPA is also taking the initial steps to address the potential threat of endocrine disrupting chemicals on the health of humans and wildlife. Work focuses on developing and validating new chemical screens and tests to isolate those chemicals and characterize the threat.

Also central to the Agency's work under this goal in FY 2004 will be continued attention to reducing potential risk from persistent, bioaccumulative and highly toxic chemicals (PBTs) and from chemicals that have endocrine disruption effects. PBT chemicals are of particular concern not only because they are toxic but also because they may remain in the environment for a long period of time, are not readily destroyed, and may build up or accumulate to high concentrations in plant or animal tissue. In cases involving mercury and PCBs, they may accumulate in human tissue.

EPA programs under this Goal have many indirect effects that significantly augment the stream of benefits they provide. For example, each year the Toxic Substances Control Act (TSCA) New Chemicals program reviews and manages the potential risks from approximately 1,800 new chemicals and 40 products of biotechnology that enter the marketplace.⁵ Since its inception, approximately 17,000 new chemicals reviewed by the program have entered United States commerce. This new chemical review process not only protects the public from the possible immediate threats of harmful chemicals like PCBs from entering the marketplace, but it has also contributed to changing the behavior of the chemical industry, making industry more aware and responsible for the impact these chemicals have on human health and the environment.

The New Chemicals program also encourages industry to develop safer, or "green," chemicals as substitutes for more dangerous ones. In FY 2004 the Agency will continue to provide industry training in the use of the same tools that EPA uses to assess new chemicals, enabling companies to make smarter choices at earlier stages in their design process, reducing government costs, and hastening the entry of safer new products into the marketplace. Through the Green Chemistry program, the use and generation of 38 million pounds and approximately three million gallons of hazardous chemicals have been eliminated, and 275 million gallons of water have been saved.⁷ A PART evaluation of the New Chemicals program showed that it had very strong purpose and management and collaborates with other Federal agencies. The assessment also found that while the program has to some extent shown results, it lacks adequate long-term measures. Recommendations from the assessment include improving the program's strategic planning, which includes an independent evaluation of the program. The Agency will also establish more outcome-oriented measures including at least one efficiency measure.

The Design for the Environment (DfE), Green Chemistry, and Green Engineering programs build on and expand new chemistry efforts. They target industry and academia to maximize pollution prevention. Our DfE Program forms partnerships with industry to find sensible solutions to prevent pollution. In one example, taking a sector approach, EPA has worked with the electronics industry to reduce the use of formaldehyde and other toxic chemicals

⁵ U.S. EPA, Office of Pollution Prevention and Toxics, TSCA New Chemicals Program Annual Report and the TSCA New Chemicals Program Website <http://www.epa.gov/oppt/newchems/accomplishments.htm>

⁸ U.S. EPA, Office of Pollution Prevention and Toxics, Design for Environment, www.epa.gov/dfe

in the manufacture of printed wiring boards.⁸ Our Green Chemistry Program also forms partnerships with industry and the scientific community to find economically viable technical solutions to prevent pollution. In addition, the Green Engineering Program works with the American Society of Engineering Education (ASEE) to incorporate Green Engineering approaches into engineering curricula.

Since this goal focuses on how the public lives in communities, it features the Agency's commitment to fulfilling its responsibility for assuring human health and promoting environmental protection in Indian country. EPA's policy is to work with tribes on a government-to-government basis that affirms the vital trust responsibility that EPA has with 572 Tribal governments and remain cognizant of the Nation's interest in conserving the cultural uses of natural resources.

Core elements of pollution prevention include minimizing toxic pollutants contained in hazardous waste streams and other pathways for the generation of toxic waste. This is accomplished through a variety of diverse regulatory and voluntary strategies, including fostering materials reuse and recycling, broad-based campaigns to re-engineer the consumption and use of raw materials, and promoting public resource conservation. These effective and sustainable programs reduce the need for storage, treatment or disposal of hazardous and municipal solid wastes, with the added benefit of reducing costs to industry and municipalities, reducing pollution and pollution control costs associated with production of virgin materials, conserving energy and energy costs, and reducing greenhouse gas emission.

In FY 2004, EPA's waste management program will increase consumer and individual awareness of environmental issues by implementing The Resource Conservation Challenge (RCC). Launched in 2002, this new campaign asks businesses, manufacturers and consumers to adopt a resource conservation ethic; to operate more efficiently; to purchase more wisely; and to make and use products that are easy to recycle and are composed of recycled materials. The Challenge also encourages the reduction of hazardous wastes containing priority chemicals through the National Waste Minimization Partnership Program. These effective and sustainable programs reduce the need for storage, treatment or disposal of hazardous or municipal wastes, with the added benefit of reducing costs to industry and municipalities. The 2003 House Subcommittee Report encouraged and supported the RCC strategy to identify opportunities to further the goal of resource conservation and recovery while remaining true to the mission of ensuring safe and protective waste management practices.

In several cases, achieving the strategic objectives under this goal is a shared responsibility with other Federal, State and Tribal partners. For example, EPA's role in reducing the levels of children's lead exposure involves promotion of Federal-state-tribe partnerships to decrease the number of specific sources of lead to children, primarily from addressing lead-based paint hazards. These partnerships emphasize development of a professional infrastructure to identify, manage and abate lead-based paint hazards, as well as public education and empowerment strategies, which fit into companion Federal efforts with Department of Health and Human Services (HHS), Department of Defense (DOD), Department of Energy (DOE), Department of Justice (DOJ), Centers for Disease Control (CDC); and Department of Housing and Urban Development (HUD). These combined efforts help to monitor lead levels in the environment, with the intent of virtually eliminating lead poisoning in children.

In 2004, EPA will also launch a set of expanded, multi-media Children's Health protection activities. The Agency will partner with several organizations and States to provide education and outreach on environmental issues affecting sensitive populations and will implement an Environmental Management Systems (EMS) approach for elementary schools. Through these approaches, State and local capacity to address sensitive populations will be developed, the number of asthma-related reportable health incidents and emergency room visits will decrease, and schoolchildren will have reduced exposures to poor indoor air quality, asbestos, mercury, pesticides and other hazardous chemicals.

Research

Currently, there are significant gaps with regard to the understanding of actual human and ecological exposures to pesticides and toxic substances. To address those data gaps, EPA research will provide a strategic framework for developing an integrated suite of tools and models that will enhance EPA's procedures for assessing the risks to human health and ecological systems associated with commercial chemicals, microorganisms, and genetically modified organisms.

Several mechanisms are in place to ensure a high-quality research program. The Research Strategies Advisory Committee (RSAC) of EPA's Science Advisory Board (SAB), an independent chartered Federal Advisory Committee Act (FACA)⁹ committee, meets annually to conduct an in-depth review and analysis of EPA's Science and Technology account. The RSAC provides its findings to the House Science Committee and sends a written report on the finding to EPA's Administrator after every annual review. Also, under the Science to Achieve Results (STAR) program all research projects are selected for funding through a rigorous competitive external peer review process designed to ensure that only the highest quality efforts receive funding support. In addition, EPA's scientific and technical work products must undergo either internal or external peer review, with major or significant products requiring external peer review. The Agency's Peer Review Handbook (2nd Edition)¹⁰ codifies procedures and guidance for conducting peer review.

Strategic Objectives

- Reduce Public and Ecosystem Risk from Pesticides
- Reduce Risks from Lead and Other Toxic Chemicals
- Reduce Exposure to and Health Effects from Priority Industrial/Commercial Chemicals
- Manage New Chemical Introduction and Screen Existing Chemicals for Risk
- Identify and Reduce Risks from Industrial/Commercial Chemicals

⁹ Federal Advisory Committee Act, Pub. L. 97-375, title II, Sec. 201(c), Dec. 21, 1982, 96 Stat. 1822.

¹⁰ U.S. Environmental Protection Agency. (2000). Science Policy Council Peer Review Handbook. (EPA Publication No. EPA 100-B-00-001). Washington, D.C: Government Printing Office

- Ensure Healthier Indoor Air
- Facilitate Prevention, Reduction and Recycling of PBTs and Toxic Chemicals
- Prevent, Reduce and Recycle Hazardous Industrial/Commercial Chemicals and Municipal Solid Waste
- Assess Conditions in Indian Country

Highlights

EPA seeks to prevent pollution at the source as the first choice in managing environmental risks to humans and ecosystems. Where pollution prevention at the source is not a viable alternative, the Agency employs risk management and cost effective remediation strategies. Reducing pollution at the source will be carried out using a multi-media approach in the following environmental problem areas:

Reduce Public and Ecosystem Risks from Pesticides

Reducing risk from exposure to pesticides requires a multi-faceted approach. Beyond being exposed through the food we eat, the general public, applicators, and farm workers may be exposed to pesticides through direct handling, groundwater contamination or aerial spray. One intention of the Food Quality Protection Act (FQPA) is to protect the public by shifting the nation toward reduced risk pesticides and safer pesticide use. Appropriate transition strategies to reduced risk pesticides are important to the nation to avoid disruption of the food supply or sudden changes in the market that could result from abruptly terminating the use of a pesticide before well-targeted reduced risk equivalents can be identified and made available. In 2004, the Agency will continue efforts to reach more farmers and grower groups, encourage them to adopt safer pesticides, use environmental stewardship and integrated pest management practices, and adopt a "whole farm" approach to environmental protection. Through these partnership programs the Agency has become more aware of the multiple pressures on our nation's agricultural industry and the interaction of the various environmental requirements that affect it.

In addition, in FY 2004, the Agency will work with grower groups, states and tribes, and USDA to combine and magnify our efforts to meet the goals authorized in the Farm Bill for conservation activities. With USDA collaboration, EPA can deliver its unique expertise in pesticides, water, and air issues in an integrated way to the agricultural community. A majority of the environmental and conservation problems that are the most pressing for farmers include pesticide and pest management issues in which the National Resource Conservation Services (NRCS) of USDA has little experience or expertise. We will develop partnerships with a broad range of groups with agricultural interests, as well as stewardship strategies that produce measurable environmental results. We will also develop common measures and environmental indicators with USDA through this cooperative effort.

Through the Certification and Training (C&T) and Worker Protection (WP) programs, EPA will continue training and educating farm workers and employers on worker safety

practices and the dangers of pesticides. EPA will continue to protect the Nation's ecosystems and reduce adverse impacts to endangered species through various regulatory and voluntary programs, including the Pesticide Environmental Stewardship Program (PESP) which encourages the use of integrated pest management (IPM) approaches. The Agency will emphasize efforts with our Tribal partners to address pesticide issues and enhance the development of Tribal technical capacity, particularly in the areas of risk management, worker safety, training, and pollution prevention.

Together, the WP and the C&T programs address issues of safe pesticide use and pesticide exposure. These programs emphasize safeguarding workers and other pesticide users from occupational exposure to pesticides by providing training for workers, employers, and pesticide applicators and handlers. Training and certification of applicators of restricted use pesticides further ensures that workers and other vulnerable groups are protected from undue pesticide exposure and risk. Recertification requirements keep their knowledge current with label changes, application improvements, availability of new pesticides and other pesticide related issues. The Endangered Species program will enlist the support of the agricultural community and other interested groups to protect wildlife and critical habitats from pesticides. This voluntary program is carried out through communications and outreach efforts and in coordination with other Federal agencies. The Pesticide Environmental Stewardship Program (PESP) and other Integrated Pest Management (IPM) outreach efforts play pivotal roles in moving the nation to the use of safe pest control methods, including reduced risk pesticides. These closely related programs promote risk reduction through collaborative efforts with stakeholders to use safer alternatives to traditional chemical methods of pest control.

Antimicrobial sterilants and disinfectants are used to kill microorganisms on surfaces and objects in hospitals, schools, restaurants and homes. Antimicrobials require appropriate labeling and handling to ensure safety and efficacy. EPA remains focused on accurate product labeling and product efficacy and meeting other requirements for antimicrobial sterilants set forth by FQPA, as well as the reregistration of older antimicrobials to ensure they meet today's standards.

Reduce Risks from Lead and Other Toxic Chemicals

EPA is part of the Federal effort to address lead poisoning and elevated blood levels in children by assisting in, and in some cases guiding, Federal activities aimed at reducing the exposure of children in homes with lead-based paint. EPA is working with other Federal Agencies including the Department of Health and Human Services (HHS), Department of Housing and Urban Development (HUD), Department of Defense (DOD), Department of Energy (DOE), Consumer Product Safety Commission (CPSC), and Department of Justice (DOJ) on implementing a Federal strategy to virtually eliminate lead poisoning. During FY 2004, EPA will continue implementing its comprehensive program to reduce the incidence of lead poisoning and elevated blood-lead levels in children nationwide.

In 2004, EPA will continue the Lead Based Paint Training & Certification Program in all fifty States through EPA authorized State, territorial or Tribal programs or, in States and territories without EPA authorization, through direct implementation by the Agency. By the end of 2004, we expect to have provided the nation with more than 18,000 individuals and firms formally certified in properly abating lead paint hazards. In the lead regulatory program, EPA

will propose two major rules on renovation and remodeling activities and the de-leading of bridges and structures.

EPA will continue to implement the new Lead Hazards Standards Rule (finalized in 2001), the Lead Renovation Information Rule and the Real Estate Notification & Disclosure Rule. In 2004, EPA will develop a new program to improve work practices in removing lead-based paint from bridges and structures, capping a series of rules with wide-ranging impact on children's health.

For other chemicals whose risks are well established (such as PCBs, asbestos, and dioxin), reductions in use and releases are important to reducing exposure of the general population as well as sensitive sub-populations. In FY 2004, EPA's PCB control efforts will continue to encourage phase-out of PCB electrical equipment, ensuring proper waste disposal methods and capacity, and fostering PCB site cleanups. The Agency will continue to be part of an interagency effort to assess potential dioxin risks to the public, including the development of a dioxin strategy to respond to the latest science and addressing dioxin risk management in a more comprehensive cross-media approach.

Manage New Chemical Introduction and Screen Existing Chemicals for Risk

Under TSCA, EPA identifies and controls unreasonable risks associated with chemicals. EPA administers TSCA through two programs: the New Chemicals and Existing Chemicals programs. The Existing Chemicals program continues its review of the original 62,000 TSCA chemicals for health impacts. A PART evaluation of the Existing Chemicals program found that while the program has strong purpose and management, it lacks strategic planning and cannot demonstrate any long-term impact. The program has demonstrated few results: GAO found that EPA has been slow to address these chemicals, with EPA having reviewed approximately two percent of existing chemicals in the last 20 years. As a result of the assessment, EPA will establish a long-term measure and an efficiency measure. The program will also focus efforts to develop acute exposure chemical guidelines (AEGs), which are important for homeland security response, recovery, and preparedness. EPA will also continue to implement its High Production Volume (HPV) Challenge program in an effort to address the gaps that the Existing Chemicals program has failed to address.

The HPV Challenge program aims to address a critical gap in the nation's knowledge about the health and environmental hazards of high production volume chemicals (HPVs). HPVs are chemicals that are manufactured in or imported into the United States in quantities of at least one million pounds per year. EPA is working with industry to make information about these chemicals available to the public so that it can make more informed consumer choices. The HPV Challenge program is already providing the public with information on the basic health and environmental effects of 2,800 HPVs. Industry response to the HPV Challenge has been overwhelming: more than 300 companies have voluntarily committed themselves to providing EPA with data for 2,196 of the 2,800 HPV chemicals.¹¹ EPA has already commenced its review

¹¹ U.S. EPA, Office of Pollution Prevention and Toxics, High Production Volume Challenge Program, HPV Commitment Tracking System. Available at <http://www.epa.gov/chemrtk/viewsrch.htm>

and public posting of these company submissions. In FY 2004, EPA expects to make screening level health and environmental effects data publicly available for a cumulative 900 chemicals.

Under a parallel Voluntary Children's Chemical Evaluation Program that was launched in 2002, EPA and industry will collaborate in fully assessing the risks associated with chemicals to which children are exposed. With our state partners we will work to establish a series of pilot programs to address TSCA responsibilities at the State level, where local knowledge of unique problems or solutions can bring greater efficiencies to this wide-ranging program.

An important Agency priority is to develop and use valid chemical screens and tests to identify and characterize the risk of chemicals that may cause endocrine disruption in humans, fish and wildlife. In 2002 EPA put in place an Endocrine Disruptor Methods Validation Subcommittee (EDMVS) made up of approximately 25 scientific experts representing outside interest groups. These experts will meet through 2005 to provide advice and counsel to EPA on scientific issues associated with the conduct of studies necessary for validation of screening and testing methods in the Agency's Endocrine Disruptor Screening Program.

Ensure Healthier Indoor Air

In FY 2004, EPA will build on the success of its national "Indoor Air Quality (IAQ) Tools for Schools" (TfS) program and expand implementation of this program to more schools. Adoption of EPA's low-cost/no-cost guidelines for proper operation and maintenance of school facilities results in healthier indoor environments for all students and staff, but is of particular help to children with asthma, lessening the degree to which they are exposed to indoor asthma triggers. By increasing the number of schools where TfS indoor air quality guidelines are adopted and implemented, healthier indoor air will be provided for over a million students, staff, and faculty.

The Agency will continue to promote the adoption of healthy building practices in existing school operations. EPA expects, as a result of Agency programs, that 834,400 Americans will be living in healthier residential indoor environments in FY 2004. Part of meeting this goal includes expanding the Agency's successful education and outreach efforts to the public about sound indoor environmental management techniques with respect to asthma. In addition, the Agency will continue to focus on ways to assist the health-care community to raise its awareness of, and attention it pays to, indoor asthma triggers and their role in provoking asthma attacks in those with the disease. EPA, in conjunction with the Department of Health and Human Services (HHS), will continue to seek opportunities to interact with managed care organizations and health insurers to promote effective asthma care practices and to encourage greater emphasis on avoidance of asthma triggers, as part of a comprehensive asthma treatment regimen.

Facilitate Prevention, Reduction and Recycling of PBT's and Toxic Chemicals

Pollution prevention and waste minimization require a comprehensive effort of minimizing the quantity and toxicity of waste generated by industries, the government and individual citizens. EPA's role includes several specific activities addressing industrial hazardous waste and municipal and industrial solid waste.

Preventing pollution can be cost-effective to industry in cases where it reduces excess raw materials and energy use. P2 can also reduce the need for expensive "end-of-pipe" treatment and disposal, enable firms to avoid potential liability, and support quality improvement incentives in place at facilities. Current EPA strategies include institutionalizing preventive approaches in EPA's regulatory, operating, and compliance/enforcement programs and facilitating the adoption of pollution prevention techniques by States, tribes, the academic community and industry.

One approach the Agency employs is the industrial sector-based focus that promotes cleaner technologies leading to a reduction of risks to health and the environment. EPA's Design for the Environment (DfE) Program works in partnership with industry to develop comparative risk, performance, and cost information about alternative technologies, chemicals, and processes in order to make environmentally informed business decisions.

Now, more than ever, it is important for Americans to make sound environmental decisions. EPA provides the national leadership necessary to reduce the generation of municipal and industrial solid waste regulated under RCRA Subtitle D and to improve the recovery and conservation of materials and energy through source reduction and recycling. EPA encourages source reduction of municipal solid waste through its WasteWise program and fosters recycling and the recycling market through such programs as Pay-As-You-Throw and Jobs Through Recycling. In addition, working with public and private sector stakeholders, EPA promotes financial and technological opportunities for recycling/reuse businesses. In FY 2004, EPA will continue to implement The Resource Conservation Challenge (RCC) using a broad range of methods and tools to help businesses, manufacturers, and consumers to adopt a resource conservation ethic. The Agency will serve as a catalyst for innovative source reduction and recycling in many industrial sectors, including waste reduction opportunities for construction and demolition debris, food wastes, tires, electronics equipment, carpet, transport packaging, and plastic beverage packaging.

In the hazardous waste arena, regulated under RCRA Subtitle C, the Agency's focus is on reducing the presence of 30 priority chemicals in hazardous waste by 50 percent by FY 2005 (compared to a 1991 baseline). This goal is consistent with other national and international toxic chemical reduction efforts. In FY 2004 the Agency will continue to encourage and support implementation at the regional, state and local levels through voluntary pollution prevention partnerships that not only make economic sense, but also decrease human and environmental exposure to toxic wastes. By FY 2004, EPA plans to initiate partnerships with companies willing to make specific commitments to reduce priority chemicals in waste as part of the Waste Minimization Partnership.

In FY 2004, the Agency will continue reducing the barriers to safe recycling of hazardous waste through changes to recycling regulatory standards and ongoing outreach to stakeholders to explore additional innovations. EPA will place particular emphasis on ways to increase safe hazardous waste recycling while reducing the burden for both small and large businesses in selected sectors, such as the printing, electronics recycling, metal finishing and chemical industries, as well as in laboratories affiliated with educational institutions.

The Green Chemistry Challenge Program continues to be an effective catalyst for the behavioral change necessary to drive the research, development, and implementation of green chemistry technologies. In addition, this program also continues to provide an opportunity to quantitatively demonstrate the technical, environmental, and economic benefits that green chemistry technologies offer. In 2004, the Green Chemistry Program will be focusing its outreach, awards, and research efforts to target audiences not currently involved in green chemistry product and process design, and specific high priority chemicals, products, and/or processes for which safer alternatives are not available.

To address continuing issues associated with PBTs, EPA launched a cross-office, cross-media PBT program in FY 1999. Through this effort, the Agency seeks to prevent, minimize and, when possible, eliminate PBTs, which are harmful to both human health and the environment. In FY 2004, the Agency will publish its Mercury National Action Plan with long-term goals for EPA's future mercury activities, and will continue the Agency's ongoing mercury activities aimed at reducing releases, reducing exposure, reducing use in products and processes, and ensuring safe management of wastes and supplies. A key element of this Action Plan already being implemented is the Hospitals for a Healthy Environment (H2E) program, which is a collaborative effort among EPA, the American Hospital Association, Health Care Without Harm, and the American Nurses Association. As voluntary H2E participants, hospitals and health care facilities pledge to eliminate mercury use by 2005 and to reduce total hospital waste by 50 percent by 2010. In 2004, H2E will continue to enroll partners. It is expected that as many as one-third of the nation's 6,000 hospitals will pledge to the program.

Assess Conditions in Indian Country

EPA places particular priority on working with Federally Recognized Indian tribes on a government-to-government basis to improve environmental conditions in Indian country in a manner that affirms the vital trust responsibility that EPA has with some 572 Tribal governments. The Agency will concentrate on building Tribal programs and strive to complete a documented baseline assessment of environmental conditions for tribes. These assessments will provide a blueprint for planning future activities identified in Tribal/EPA Environmental Agreements (TEAs) or similar Tribal environmental plans to address and support priority environmental multi-media concerns in Indian country.

In FY 2004, EPA is requesting a total of \$62.5 million for Indian General Assistance Program grants. These resources will allow most tribes to support at least one person working in their community to build a strong, sustainable environment for the future. These stewards perform vital work by assessing the status of a tribe's environmental condition and building an environmental program tailored to that tribe's needs. Another key role of this workforce is to alert EPA of serious conditions requiring attention in the near term so that, in addition to assisting in the building of Tribal environmental capacity, EPA can work with the tribe to respond to immediate public health and ecological threats.

The Administration evaluated the Indian General Assistance Program (GAP) this past year using the Performance Assessment Rating Tool (PART). The evaluation found that the program's purpose is very clear. However, the program needs to develop new long term performance measures that focus on environmental outcomes, rather than processes.

EPA continues to consider additional approaches on how EPA and Indian tribes might work in concert to protect public health and the environment in Indian country. As part of that effort, EPA is proposing to continue authority first granted in FY 2001 to enter into cooperative agreements with tribes to assist EPA in implementing environmental programs in instances where the tribe has not achieved primacy. Implementation of this approach would allow for a more gradual transition to full program authorization by allowing for varying degrees of Tribal involvement based on an individual tribe's capabilities and interests.

Research

In FY 2004, research will be conducted to address the need for exposure and effects methods to evaluate the special sensitivities of children to pesticides and other toxic chemicals. The methods are developed to evaluate endpoints of toxicity that are qualitatively different from those of concern for adults and the effects of exposures that are quantitatively different because of factors such as body weight, time spent in various micro environments and contact with potentially contaminated surfaces.

Also, EPA will continue ecosystem effects research to address the development of appropriate screening and higher tier ecological effects models, the development of pharmacokinetic models to estimate/extrapolate tissue concentration of chemical agents from laboratory test organisms to wildlife species of concern, and the relative influence of exposure to chemicals and other environmental agents, habitat alterations and land use, and natural variability on sustainability of wildlife populations. In FY 2004, EPA will deliver the methodology to evaluate population-level effects of pesticides on wildlife and aquatic species.

Finally, EPA will continue research in biotechnology and draw on its expertise in risk assessment to evaluate current methodology and, where necessary, develop new methods or new approaches to risk assessment of biotechnology products. Special areas of focus in biotechnology will be risk communication, monitoring, ecological assessment, and risk management to develop effective strategies to mitigate risks when unintended adverse consequences occur and to advance the application of socio-economic methods to better understand issues related to public acceptance of genetically modified products.

External Factors

The ability of the Agency to achieve its strategic goals and objectives depends on several factors over which the Agency has only partial control or influence. EPA relies heavily on partnerships with states, tribes, local governments, the public and regulated parties to protect the environment and human health. In addition, EPA assures the safe use of pesticides in coordination with the USDA and FDA, who have responsibility to monitor and control residues and other environmental exposures, as necessary. EPA also works with these agencies to coordinate with other countries and international organizations with which the United States shares environmental goals. This plan discusses the mechanisms and programs that the Agency employs to assure that our partners in environmental protection will have the capacity to conduct the activities needed to achieve the objectives. However, as noted, EPA often has limited control

over these entities. In addition, much of the success of EPA programs depends on the voluntary cooperation of the private sector and the general public.

Other factors that could delay or prevent the Agency's achievement of some objectives include lawsuits that delay or stop EPA's and/or State partners' planned activities, new or amended legislation, and new commitments within the Administration. Economic growth and changes in producer and consumer behavior, such as shifts in energy prices or automobile use, could have an influence on the Agency's ability to achieve several of the objectives within the specified.

Large-scale accidental releases or rare catastrophic natural events could, in the short term, impact EPA's ability to achieve the objectives. In the longer term, new environmental technology, unanticipated complexity or magnitude of environmental problems, or newly identified environmental problems and priorities could affect the timeframe for achieving many of the goals and objectives. In particular, pesticide use is affected by unanticipated outbreaks of pest infestations and/or disease factors, which require EPA to review emergency uses to ensure no unreasonable risks to the environment will result. EPA has no control over requests for various registration actions which include among others, new products, amendments, and uses, so its projection of regulatory workload is subject to change.

The Agency's ability to achieve its objective of facilitating prevention, reduction and recycling of Persistent, Bioaccumulative, and Toxic chemicals (PBTs) could be impacted by the increased flexibility provided to redirect resources under the National Environmental Performance Partnership System (NEPPS). If States redirect resources away from this area, it would impact both annual performance and progress implementing the Agency's strategic plan. To mitigate this potential issue, EPA is working with the Environmental Council of States (ECOS) to develop core measures and coordinating with states to reduce PBTs in hazardous waste and develop tools that will focus state activities on shared EPA and state goals.

Achieving our objective for Indian country is based upon a partnership with Indian Tribal governments, many of which face severe poverty, employment, housing and education issues. Because Tribal Leader and environmental director support will be critical in achieving this objective, the Agency is working with tribes to ensure that they understand the importance of having good information on environmental conditions in Indian country and sound environmental capabilities. In addition, EPA also works with other Federal Agencies, the Department of Interior (US Geological Survey, Bureau of Indian Affairs, and Bureau of Reclamation), the National Oceanic and Atmospheric Administration, the Indian Health Service and the Corps of Engineers to help build programs on Tribal lands. Changing priorities in these agencies could impact their ability to work with EPA in establishing and implementing strategies, regulations, guidance, programs and projects that affect Indian tribes.

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems

Objective: Reduce Public and Ecosystem Risk from Pesticides

By 2005, public and ecosystem risk from pesticides will be reduced through migration to lower-risk pesticides and pesticide management practices, improving education of the public and at risk workers, and forming "pesticide environmental partnerships" with pesticide user groups.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Public and Ecosystem Risk from Pesticides	\$56,169.1	\$55,409.8	\$57,313.1	\$1,903.3
Environmental Program & Management	\$42,040.7	\$41,358.0	\$43,226.3	\$1,868.3
Science & Technology	\$978.2	\$966.3	\$986.8	\$20.5
State and Tribal Assistance Grants	\$13,150.2	\$13,085.5	\$13,100.0	\$14.5
Total Workyears	237.3	239.1	233.7	-5.4

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Congressionally Mandated Projects	\$1,700.0	\$0.0	\$0.0	\$0.0
Endocrine Disruptor Screening Program	\$750.5	\$768.9	\$768.0	(\$0.9)
Facilities Infrastructure and Operations	\$3,350.0	\$3,423.3	\$3,521.9	\$98.6
Legal Services	\$308.2	\$328.6	\$343.0	\$14.4
Management Services and	\$382.5	\$384.1	\$333.5	(\$50.6)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Stewardship				
Partnerships to Reduce High Risk Pesticide Use	\$10,407.0	\$12,279.8	\$11,686.2	(\$593.6)
Pesticide Registration	\$10,609.7	\$11,016.6	\$10,938.8	(\$77.8)
Pesticide Reregistration	\$3,793.3	\$3,907.2	\$4,152.7	\$245.5
Pesticides Program Implementation Grant	\$13,085.5	\$13,085.5	\$13,100.0	\$14.5
Regional Management	\$0.0	\$21.9	\$17.9	(\$4.0)
Safe Pesticide Applications	\$11,157.2	\$10,193.9	\$12,451.1	\$2,257.2

FY 2004 Request

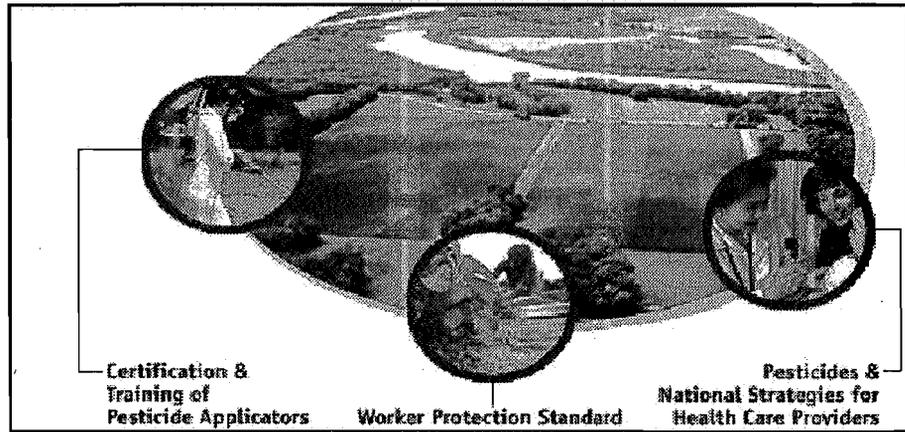
EPA will continue to assist farmers in transitioning to reduced risk pesticides and pest management practices as the Agency continues to implement the Food Quality Protection Act (FQPA) and restricts or removes older, riskier pesticides from the market. Agriculture's effects on surface water quality, groundwater quality, air quality, food quality, habitat, and other areas of concern can be significant thus a series of complex regulatory and non-regulatory control measures addressing media-specific environmental issues is needed. In FY 2004, EPA will continue to use a "whole farm approach" to pesticide management and pollution prevention. This approach simultaneously considers numerous risks associated with the agricultural use of pesticides, including spray drift, chemical runoff, pesticide disposal, groundwater protection, worker protection, and pesticide application techniques. This allows the Agency to pursue an integrated approach to pollution prevention.

EPA will continue its commitment under this objective to protect agricultural workers, to certify and train pesticide applicators, to protect endangered species, non-target species such as benign insects, fish and wildlife, and ecosystems from the harmful effects of pesticides, to develop and implement environmental stewardship and integrated pest management pollution prevention strategies and to protect our nation's groundwater from pesticide contamination. Finally, EPA will provide \$500,000 in "seed money" to co-fund projects in combination with USDA resources. Joint funding will help establish a more consistent EPA presence as a partner with USDA and other organizations in addressing environmental issues associated with agriculture, and a more consistent Agency voice in the national dialogue on agriculture.

Reduce Human Exposure to Pesticide Use

In 2004, EPA will continue its partnership with states and tribes in educating workers, farmers and employers on the safe use of pesticides and worker safety. The Certification and Training (C&T) and the Worker Protection (WP) programs protect agricultural workers, employers, applicators, handlers and the public from the potential dangers posed by pesticides. The Worker Protection Standards offer protection to over three and a half million people who

work with pesticides at more than 560,000 workplaces. The C&T program increases the competence of the applicators in handling and applying pesticides through training and certification (and recertification every three to five years) of private and commercial applicators of restricted use pesticides. C&T and WP also provide safety training for pesticide handlers and agricultural workers.



EPA will continue efforts to educate the public in the proper use of pesticides to prevent household and other pesticide misuse. EPA will focus its efforts in rural and urban areas with poor communities where there are disproportionate public health risks to residents, especially children.

EPA will employ product stewardship with manufacturers and distributors, and work with states to improve their certification and training programs. EPA continues to improve consumer product labels, communicate proper handling of pesticide containers and their distribution, and direct enforcement activities to prevent improper sales and use of agricultural pesticides. EPA continues to be concerned with the use of certain pesticides that are likely to show up in groundwater. The Agency is pursuing options to assess and manage pesticide use and contamination potential of those pesticides. The Agency's longstanding multi-media Groundwater Strategy and the development of pesticide management plans at the State level provide an ongoing means of preventing pesticide contamination of our groundwater resources. EPA also examines leaching potential as new pesticides are registered and older pesticides are reviewed for environmental impacts.

Regions will lead the development of FQPA transition projects with commodity groups and provide strategic and technical assistance on project design, implementation, and evaluation. The "whole farm" approach, conducted in cooperation with USDA and FDA, will focus on area-specific problems. Due to variations in crops, pests and weather patterns in different locales, a regional approach will be employed to address local needs. This approach will rely on partnerships between EPA, State agencies (Departments of Agriculture, Departments of Environment and Land Grant Universities) and agricultural groups (farm bureaus and major commodity groups). The first stage of the initiative evaluates current farm operations including pesticide risk reduction technologies, Integrated Pest Management (IPM) techniques and Best Management Practices (BMPS), soil and water conservation, handling and storage of hazardous materials and solid waste management. Model or demonstration sites are used for purposes of outreach, education and compliance assistance for other agricultural operations throughout the state.

Reduce Environmental Exposure to Pesticide Use

In FY 2004, EPA and USDA will continue to provide information about pest control options, organize and deliver pest management educational programs for agricultural producers, consumers, and other stakeholders on reduced risk pesticides and alternative pest control methods, such as IPM, through the Pesticide Environmental Stewardship Program (PESP). EPA will also continue to support the development and evaluation of new pest management technologies.

The Pesticide Environmental Stewardship Program (PESP) promotes risk reduction through increasing the use of safer alternatives to traditional chemical methods of pest control. PESP, through voluntary partnerships with pesticide users, seeks to reduce both health and environmental risks while incorporating pollution prevention strategies. Partners and supporters of PESP play vital roles in developing common sense approaches to pesticide risk reduction, including use of integrated pest management (IPM), biological and cultural controls, and weather and pest data decision models. PESP supporters have an interest in risk reduction because they use agricultural products or represent groups affected by pesticides.

Although this program began prior to FQPA in 1994, its focus is consistent with the statute's goals in reducing risk in agricultural and nonagricultural settings. PESP grants provide assistance to partners and supporters in developing and implementing risk reduction strategies. EPA will continue to coordinate with USDA in encouraging and supporting IPM practices, fostering the managed use of an array of biological, cultural, mechanical, and chemical

Opportunities for collaboration in implementing the Farm Security and Rural Investment Act of 2002

An important new opportunity has been created for EPA with the passage of the Farm Act, which authorizes an 80 percent increase in the money available to support conservation programs. Over the next six years, \$9 billion has been allocated for the Environmental Quality Incentives Program (EQIP) and \$2 billion for the newly created Conservation Security Program (CSP) both of which are intended to increase the use of environmentally sound production practices.

Using a relatively small amount of EPA resources, the Agency will work with grower groups, States and tribes, and USDA to combine and magnify our efforts to meet the goals authorized in the Farm Bill for conservation activities. With USDA collaboration, EPA can deliver its unique expertise in pesticides, water, and air issues in an integrated way to farmers. Many of the environmental and conservation problems that are the most pressing for farmers involve pesticide and pest management, areas in which the National Resource Conservation Services (NRCS) of USDA has little experience or expertise.

We will develop partnerships with a broad range of groups with agricultural interests, including other Federal agencies, grower and commodity organizations, State and local governments, conservation districts, non-profit organizations, and universities; stewardship strategies that produce measurable environmental results; and common measures and environmental indicators with USDA.

pest control methods that achieve the best results with the least adverse impact to the environment.

The Endangered Species Protection Program (ESPP) is built on consultation and cooperation between the United States Fish and Wildlife Service (FWS), EPA Regions, States, and pesticide users. The Endangered Species Act is intended to protect and promote the recovery of animals and plants that are in danger of becoming extinct. Under the Act, EPA must ensure that use of pesticides will not result in harm to species listed as endangered and threatened, or harm habitat critical to those species' survival. EPA is working with FWS and stakeholders to identify ways to enhance the program to make it more efficient and effective. In 2004, the Agency will be working to formalize the improved consultation process.

In order to protect listed species from harm resulting from pesticide use, the Agency will continue to do the following:

- Use sound science to assess the risk of pesticide exposure to listed species. In 2004, EPA will continue to work with industry to improve databases of endangered species information. The database will help ensure consistent consideration of endangered species as pesticides are reviewed.
- Implement use limitations through appropriate label statements; develop county bulletins containing maps of species' locations and pesticide use limitations; and providing a toll-free telephone number to assist users in determining whether they need a bulletin and where to obtain one.
- Encourage individual states and tribes to develop their own endangered species protection plans where needed, to meet the program's goals.

Promoting Use of Integrated Pest Management in Schools

One of EPA's highest priorities is protecting children's health from unnecessary exposure to pesticides that are used in their schools to control pests. EPA is encouraging school officials to adopt Integrated Pest Management (IPM) practices to reduce children's exposure to pesticides while maintaining effective control of pests.

A goal of the IPM in Schools Initiative is to efficiently integrate an IPM program with the school's existing pest management plan and other school management activities. School management activities such as preventive maintenance, janitorial practices, landscaping, occupant education, and staff training are all part of an IPM program. The following steps are required to develop an IPM decision network:

- Developing an official policy statement for school pest management
- Designating pest management roles
- Setting pest management objective for sites
- Inspecting, identifying and monitoring for incipient pest populations
- Setting action thresholds
- Applying IPM strategies
- Evaluating results and record keeping

EPA is helping schools understand and implement IPM through the distribution of printed publications, awarding grants to start IPM programs, offering workshops and courses and providing guidance and assistance through partnerships with universities and national associations.

Antimicrobial pesticides are used to kill microorganisms on surfaces and objects in hospitals, schools, restaurants and homes. EPA registers and regulates antimicrobial pesticides under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). To obtain registration, manufacturers of antimicrobial products must meet basic standards, the foremost being:

- The product will not cause unreasonable adverse effects to human health or the environment.
- Product labeling and composition comply with the requirements of FIFRA.

Manufacturers are required to submit to EPA detailed and specific information concerning the chemical composition of their product; effectiveness data to document their claims against specific microorganisms and to support the directions for use provided in labeling; labeling that reflects the required elements for safe and effective use; and toxicology data to document any hazards associated with use of the product.

The Agency will continue to address concerns regarding the efficacy of public health products used to kill microorganisms in hospitals, schools, restaurants, and homes. Sterilizers and disinfectants are increasingly vital to containing infections that are resistant to antibiotics in clinical settings. EPA has developed a comprehensive strategy to improve the regulation of antimicrobial pesticides. In keeping with a major component of the strategy, EPA has greatly improved communications with the public, all levels of government, academia, user communities, industry, health professionals, trade organizations, and independent testing groups. Additionally, the Agency has enhanced and expanded its use of the Internet to educate the general public about the status and direction of the regulation for antimicrobial products.

The strategy also seeks to improve the regulation of antimicrobials through improvement of EPA's regulatory processes. EPA has committed resources to ensure that efficacy tests for antimicrobial products are reliable and reproducible and that internal controls are improved to ensure the integrity of data submitted by registrants. Further, the Agency is developing a complaint system to handle concerns regarding ineffective products.

Reducing the risks of pesticide exposure is a particular challenge on Tribal lands. Native Americans often consume different foods than the average American, eating more wild game and fish following traditional subsistence diets, and using different farming practices. Their patterns of exposure may not be adequately represented in the general public dietary or other exposure information gathered by USDA, FDA or the registrant. In FY 2002, EPA launched the LifeLine pilot program to modify one of the Agency's primary risk assessment tools to capture these unique exposure risks. A number of tribes have agreed to provide detailed lifestyle data in support of this new model, which will be modeled for Tribal communities in biogeographical areas. Additionally, through the Tribal Medicine Project, teams of experts on pesticide exposure risks and symptoms foster greater Tribal awareness of pesticide health hazards, and provide training to Tribal health care providers on the identification, prevention, and treatment of toxic exposures among Tribal members. Outreach and education tools must be matched to Tribal needs.

The effectiveness of our field programs on Tribal lands is directly related to Tribal capacity for pollution prevention. Agency efforts include the following:

- Enhancing Tribal environmental program capacity by conducting multi-media risk assessments.
- Providing training and technical assistance for Tribal environmental managers to conduct their own assessments and mitigation activities, with a primary emphasis on pollution prevention, to reduce children's exposure to pesticides as well as Persistent Bioaccumulative Toxics (PBTs), lead and other toxic substances.

FY 2004 Change from FY 2003 Request

EPM

- (+\$500,000) This increase is to support EPA/USDA agricultural and environmental collaboration. In partnership with the greater agricultural community, EPA will evaluate current farm operations and risk reduction technologies.

GOAL: PREVENTING POLLUTION AND REDUCING RISK IN COMMUNITIES, HOMES, WORKPLACES AND ECOSYSTEMS

OBJECTIVE: REDUCE PUBLIC AND ECOSYSTEM RISK FROM PESTICIDES

Annual Performance Goals and Measures

Partnerships and Risk Reduction

In 2004 Reduce public health and ecosystem risk from pesticides.

In 2003 Reduce public and ecosystem risk from pesticides.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Successful transitions from high risk pesticides to effective alternative pest management practices			20-30	Transitions
Number of efforts identified with USDA, universities, states, and others, leveraging Farm Bill funds that promote the research and adoption of reduced risk pest management strategies.			40	Efforts
Number of incidents and mortalities to terrestrial and aquatic wildlife caused by the 15 pesticides responsible for the greatest mortality to such wildlife.		20	5%	reduction
Quantified adoption of pollution prevention measures in targeted commodities and farm management strategies.			tbd	grants

Baseline: The baseline for wildlife mortalities, transitions, and efforts are under development. The baseline for grants, which are targeted for adoption and/or development of IPM standards, irrigation water conservation and management, dust mitigation, waste management and other best management practices are under development using Farm Bill funds as leverage, is zero.

Verification and Validation of Performance Measures

FY 2004 External Performance Measures: Quantified adoption of pollution prevention measures in targeted commodities farm management strategies

Performance Database: EPA's Regional Offices' and Headquarters' databases.

Data Source: The data source is the number of grants awarded in conjunction with the United States' Department of Agriculture's (USDA) Farm Bill efforts to support the development of Integrated Pest Management strategies, irrigation water conservation and management, dust mitigation, waste management, and other best management strategies. Information will be compiled through a consolidated count from EPA's Office of Pollution Prevention and Toxic Substances (OPPTS), the Office of Air and Radiation (OAR) and the Office of Water (OW). The Agency is starting to develop a template to use in grant management for these projects that will promote standardized reporting of environmental outcomes such as the use of reduced-risk pesticides and other agricultural management strategies.

Methods, Assumptions and Suitability: This is an output measure tracked directly through EPA Regional Offices' and HQ's record-keeping systems. No models or assumptions or statistical methods are employed. Data are aggregated nationally and suitable for cross year comparisons.

QA/QC Procedures: Regional and Headquarters' offices are responsible for ensuring the accuracy of the count of grants awarded.

Data Quality Review: Regional Offices will conduct their own QA/QC procedures prior to submitting their counts to EPA-HQ for consolidation into a national count.

Data Limitations: This is a measure of grants awarded only. As stated above, the Agency is developing a more sophisticated method of environmental outcome reporting for grants awarded to promote of agricultural best management strategies.

Error Estimate: N/A.

New/Improved Data or Systems: see above.

References: OPPTS HQ-Regional Memorandum of Agreement (MOA).

FY 2004 External Performance Measures: Successful transitions from high-risk pesticides to effective alternative pest management practices

Performance Database: EPA's Regional Offices' databases

Data Source: All information is received through reporting from EPA's Regional offices, consistent with Office of Pollution Prevention and Toxic Substances' (OPPTS) biennial Regional Office-HQ Memorandum of Agreement (MOA).

Methods, Assumptions and Suitability: This is an outcome measure tracked directly through EPA's Regional Offices' record-keeping systems. No models or assumptions or statistical methods are employed. Data are aggregated nationally and suitable for cross year comparisons.

QA/QC Procedures: Regional Offices are responsible for determining if a particular activity constitutes a "transition," using criteria that will be developed during FY2003.

Data Quality Review: Regional Offices will conduct their own QA/QC procedures prior to submitting their counts to EPA-HQ for consolidation into a national count. Discussion will be held throughout the year to ensure consistency in characterizing "transitions."

Data Limitations: This measure is designed to quantify various activities in agriculture that promote safer pest management strategies and is necessarily broad. For example, a transition could include safer pest management tools applied to an entire crop in a particular location, and/or the substitution of a safer chemical (such as a reduced risk pesticide or a biopesticide) for a more risky pesticide.

Error Estimate: N/A.

New/Improved Data or Systems: EPA will develop a definition of more explicit "transition" in FY2003.

References: OPPTS Headquarters-Regional M.O.A.

FY 2004 External Performance Measures: Number of efforts identified with USDA, universities, grower groups, and states that promote the research and adoption of reduced risk pest management strategies.

Performance Database: EPA's Regional Offices' databases

Data Source: All information is received through reporting from Regional offices, consistent with OPPTS' biennial Regional Office-HQ Memorandum of Agreement (MOA).

Methods, Assumptions and Suitability: This is an output measure tracked directly through EPA's Regional Offices' record-keeping systems. No models or assumptions or statistical methods are employed. Data are aggregated nationally and suitable for cross year comparisons.

QA/QC Procedures: Regional Offices are responsible for determining if a particular activity constitutes an "effort," using criteria, which will be developed during FY2003.

Data Quality Review: Regional Offices will conduct their own QA/QC procedures prior to submitting their counts of efforts to EPA-HQ for consolidation into a national count.

Data Limitations: Because this measure is designed to quantify outreach to various stakeholders across the country, including meetings, presentations, phone calls, etc, it is can only approximate the total effort that EPA is expending to promote reduced risk pest management

strategies. The definition of effort will necessarily be broad as there are many communication tools available to the Agency for outreach to stakeholders.

Error Estimate: N/A.

New/Improved Data or Systems: EPA will develop a more explicit definition of "effort" in FY 2003.

References: OPPTS HQ-Regional M.O.A.

FY 2004 External Performance Measures: Number of incidents and mortalities to terrestrial and aquatic wildlife caused by the 15 pesticides responsible for the greatest mortality to such wildlife.

Performance Database: The Ecological Incident Information System (EIIS) is a national database of information on poisoning incidents of non-target plants and animals caused by pesticide use. The Environmental Fate and Effects Division of the Office of Pesticide Programs maintain this database.

Data Source: Data are extracted from written reports of fish and wildlife incidents submitted to the Agency by pesticide registrants under the Federal Insecticide Fungicide and Rodenticide Act (FIFRA), Section 6(a)(2), as well as incident reports voluntarily submitted by state and Federal agencies involved in investigating such incidents.

Methods, Assumptions and Suitability: This measure helps to provide information on the effect of our regulatory actions on the well being of fish and wildlife. The assumption is that the number of incidents and mortalities to fish and wildlife caused by pesticides will decrease when use of those pesticides are curtailed or eliminated.

QA/QC Procedures: Before entering an incident, a database program is used to screen for records already in the database with similar locations and dates. Similar records are then individually reviewed to prevent duplicate reporting. After each record is entered into the EIIS database, an incident report is printed that contains all the data entered into the database. A staff member, other than the one who entered the data, then reviews the information in the report and compares it to the original source report to verify data quality. Scientists using the incident database are also encouraged to report any inaccuracies they find in the database for correction.

Data Quality Review: Internally and externally conducted data quality reviews related to data entry are ongoing. EPA follows a quality assurance plan for accurately extracting data from reports and entering it into the EIIS database. This quality assurance plan is described in Appendix D of the Quality Management Plan for the Office of Pesticide Programs. When wildlife data from private organizations such as the American Bird Conservancy are incorporated, the new data and EIIS data are reviewed for quality during data entry using the same standards.

Data Limitations: This measure is designed to monitor trends in the numbers of acute poisoning events reported to the Agency. Because the data are obtained, in part, through

voluntary reporting, the numbers of reported incidents may not accurately reflect the numbers of actual incidents. Therefore, it is important to consider the possible factors influencing changes in incident reporting rates over time when evaluating this measure.

Error Estimate: Moving average counts of number of incidents per year may be interpreted as a relative index of the frequency of adverse effects that pesticides are causing to fish and wildlife from acute toxicity effects. The indicator numbers are subject to under-reporting, but trends in the numbers over time may indicate if the overall level of adverse acute effects is improving or getting worse.

New/Improved Data or Systems: The Office of Pesticide Programs is currently conducting a project with the American Bird Conservancy, reviewing the data in its Avian Incident Monitoring System on bird kill incidents caused by pesticides. These data will be incorporated into the EIIS. The project should improve the quantity and quality of data in the EIIS database on avian incidents.

References: The Ecological Incident Information System (EIIS) is an internal Office of Pesticide Programs database. Data available upon request.

Coordination with Other Agencies

EPA coordinates with various State, Tribal, and Federal agencies as well as with private organizations to ensure that our strategic approaches to pollution prevention and risk reduction are comprehensive and compatible with efforts already in place. Achievement of this objective depends in part on successful cooperation with our partners and the successful implementation of our regulatory programs. The number of partnerships with private and public entities serves as an effective indicator of EPA's progress in meeting its stated objectives.

Coordination with State lead agencies and with the U. S. Department of Agriculture (USDA) provides added impetus to the implementation of the Certification and Training program. States also provide essential activities in developing and implementing the Endangered Species, Groundwater, and Worker Protection programs. States are involved in numerous special projects and investigations, including emergency response efforts. The Regions provide technical guidance and assistance to the states and tribes in the implementation of all pesticide program activities.

EPA uses a range of outreach and coordination approaches for pesticide users, for agencies implementing various pesticide programs and projects, and for the general public. Outreach and coordination are essential to protect workers, endangered species, and groundwater; to provide training of pesticide applicators; to promote integrated pest management and environmental stewardship; and to support compliance through EPA's regional programs and those of the states and tribes.

In addition to the training that EPA provides to farm workers and restricted use pesticide applicators, EPA works with the state Cooperative Extension Services designing and providing specialized training for various groups. Such training includes instructing private applicators on the proper use of personal protective equipment and application equipment calibration, handling

spill and injury situations, farm family safety, preventing drift, and pesticide and container disposal. Other specialized training is provided to public works employees on grounds maintenance, to pesticide control operators on proper insect identification, and on weed control for agribusiness.

Statutory Authorities

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

Federal Food, Drug and Cosmetic Act (FFDCA)

Food Quality Protection Act (FQPA) of 1996

Clean Water Act

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems

Objective: Reduce Risks from Lead and Other Toxic Chemicals

By 2007, significantly reduce the incidence of childhood lead poisoning and reduce risks associated with polychlorinated biphenyls (PCBs), mercury, dioxin, and other toxic chemicals of national concern.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Risks from Lead and Other Toxic Chemicals	\$37,745.8	\$36,355.9	\$38,722.5	\$2,366.6
Environmental Program & Management	\$21,891.9	\$22,673.9	\$25,022.5	\$2,348.6
State and Tribal Assistance Grants	\$15,853.9	\$13,682.0	\$13,700.0	\$18.0
Total Workyears	135.7	144.7	149.8	5.1

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Congressionally Mandated Projects	\$380.0	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and Operations	\$1,940.1	\$2,076.6	\$2,152.8	\$76.2
Grants to States for Lead Risk Reduction	\$13,682.0	\$13,682.0	\$13,700.0	\$18.0
Lead Risk Reduction Program	\$13,092.6	\$13,166.5	\$14,832.9	\$1,666.6
Legal Services	\$220.4	\$238.9	\$248.3	\$9.4

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Management Services and Stewardship	\$182.9	\$197.6	\$282.4	\$84.8
National Program chemicals: PCBs, Asbestos, Fibers, and Dioxin	\$6,775.5	\$6,994.5	\$7,506.1	\$511.6

FY 2004 Request

Lead Risk Reduction Program

EPA and the Health and Human Services co-chair the President's Task Force on Children's Environmental Health and Safety. This executive-level group works to coordinate efforts among Federal agencies in dealing with lead poisoning, asthma and other environmental health and safety concerns related to the nation's children.¹² Close collaboration among Federal Agencies as well as States and tribes is a key component of our efforts to eliminate childhood lead poisoning.

During FY 2004, 37 authorized states, one authorized territory, the District of Columbia, and three authorized tribes will run training and certification programs, and EPA will continue to implement the Lead Based Paint Training & Certification Program in those areas that do not have an authorized program. In the lead regulatory program, our current schedule anticipates proposing a major new program setting standards for training and certification for renovation and remodeling activities in FY 2004. EPA will also propose in FY 2004, a program targeting the work procedures and waste disposal practices used to safely and cost-effectively conduct deleading of bridges and other structures.



The concentration of lead in a child's blood is typically used as an index of lead exposure. Over time, increased scientific evidence of harmful effects has led to concern about blood-lead levels once thought to be safe. Since 1975, the Center for Disease Control and Prevention (CDC) has lowered the blood-lead level considered elevated for children from 40 ug/dL (micrograms per deciliter) to the current level of 10 ug/dL.¹³ Ingestion of lead-contaminated dust and soil through normal hand-to-mouth activity is the primary pathway of lead exposure to United States

¹² HUD Press release, Oct. 24, 2001, www.hhs.gov/news/press

¹³ Centers for Disease Control, National Center for Health Statistics, National Health and Nutrition Examination Survey: 1999–2002. Available at <http://www.cdc.gov/nchs/nhanes.htm>

children under six years of age.¹⁴ Children may ingest lead-based paint chips from flaking walls, windows, and doors or when lead-based paint is disturbed in the course of renovation, repair, or abatement activity. EPA, under the 1992 Residential Lead-Based Paint Hazard Reduction Act (Subchapter IV of TSCA), assists and guides Federal activities aimed at reducing the exposure of children in homes with lead-based paint. Other Federal agencies, such as Housing and Urban Development (HUD) and Health and Human Services (HHS), via the National Institute for Occupational Safety and Health (NIOSH) and the CDC, also play important roles.

Considerable progress has been made in reducing environmental lead levels. In 1973, the Federal government began taking steps to eliminate sources of lead. Efforts include EPA phasing out leaded gasoline and the Consumer Product Safety Commission (CPSC) banning the production and sale of lead-based paint for residential use in 1978. In addition, EPA has implemented more stringent standards for lead in drinking water, and the domestic canning industry voluntarily eliminated the use of lead in solder to seal food cans. As a result of these efforts, children's blood levels have declined over 80 percent since the mid-1970s.

Data from the National Health and Nutrition Examination Survey (NHANES) conducted by the National Center for Health Statistics indicate that from 1976-1980 to 1999, the geometric mean blood lead level for children aged one to five years decreased from 15.0 micrograms per deciliter (ug/dL) to 2.0 ug/dL.¹⁵ According to NHANES III Phase 2, conducted from 1991 to 1994, approximately 900,000 children aged one to five years had blood lead levels equal to or exceeding 10 ug/dL.¹⁶ Data reported to CDC from nineteen state surveillance programs show that the proportion of tested children under age six with blood lead levels at or above 10 ug/dL decreased from 1996 to 1998.¹⁷ New data released by CDC in January, 2003, indicate that the national incidence of elevated lead blood levels among children may now be approximately 400,000 cases, based on combined 1999 and 2000 samples. While these findings offer encouragement that the efforts of EPA and other Federal and State agencies to eliminate this disease are meeting with success, the wide confidence interval associated with 1999/2000 estimate and recognition that childhood lead poisoning incidence may be concentrated at much higher rates in "hot spots" in many American cities require us to maintain these successful efforts for the foreseeable future.

Lead exposure can affect children across all socioeconomic strata and in all regions of the country. Children in poor inner-city communities, however, are disproportionately affected. In fact, nationally, children in Medicaid comprise 80 percent of children with blood lead levels 15 ug/dL and above.¹⁸ Studies by the CDC (1988-1991) indicate that children living in central cities are three to four times more likely to have blood-lead levels equal to or exceeding 10 ug/dL than those outside central cities, with the highest prevalence in cities where populations exceed one

¹⁴ Centers for Disease Control, National Center for Health Statistics, National Health and Nutrition Examination Survey: 1999-2002. Available at <http://www.cdc.gov/nchs/nhanes.htm>

¹⁵ Centers for Disease Control, National Center for Health Statistics, National Health and Nutrition Examination Survey: 1999-2002. Available at <http://www.cdc.gov/nchs/nhanes.htm>.

¹⁶ Centers for Disease Control, National Center for Health Statistics, National Health and Nutrition Examination Survey: 1999-2002. Available at <http://www.cdc.gov/nchs/nhanes.htm>

¹⁷ Centers for Disease Control, National Center for Health Statistics, National Health and Nutrition Examination Survey: 1999-2002. Available at <http://www.cdc.gov/nchs/nhanes.htm>

¹⁸ Centers for Disease Control, National Center for Health Statistics, National Health and Nutrition Examination Survey: 1999-2002. Available at <http://www.cdc.gov/nchs/nhanes.htm>

million.¹⁹ The major reason for this high proportion is the lead-based paint hazards that are more prevalent in deteriorated older housing. In addition, the overall ambient level of environmental lead tends to be higher in inner cities.

According to HUD's National Survey of Lead and Allergens in Housing, an estimated 36 million homes (40 percent of all homes) contain some lead-based paint.²⁰ The likelihood, extent, and concentration of lead-based paint vary with the age of the building. Eighty-seven percent of housing units constructed before 1940 contain some lead-based paint, a figure that drops to 24 percent of units constructed between 1960 and 1977.²¹ Over 5 million (or 14 percent) of these homes with some lead-based paint have children under age six in residence. Subchapter IV of the Toxic Substances Control Act (TSCA) mandates increasing protections from lead poisoning for children younger than six years.

In the past six years, EPA has made great strides in protecting children from lead poisoning through a combination of rulemaking, education, research, and partnerships. This variety of approaches enhances the effectiveness of the overall program, and in FY 2004 EPA's lead activities will continue to make a significant contribution towards the Agency's goal of virtually eliminating lead poisoning in children. For example, in FY 2004, EPA plans to propose a rule setting training standards for remodeling and renovation. While working on promulgation, EPA is also focusing on a public information campaign and training program in best practices for remodeling and renovation, to help set the stage for the rule and to foster awareness of safer work techniques among stakeholders.

In FY 2004, EPA will develop a program regarding deleading of buildings and structures, capping a series of rules with wide-ranging impact on children's health. EPA has promulgated regulations to set up a Federal infrastructure, including the lead accreditation, certification and workplace standards rule for targeted housing, the Lead Real Estate Notification and Disclosure Rule (with HUD), the Lead Renovation Information Rule, and standards identifying lead hazards in paint, dust and soil. The accompanying public education programs and tools developed include a national clearinghouse to provide the public with information on lead as well as a program of grants to states and tribes to establish accreditation, certification and workplace standards programs for targeted housing.

Grants to States for Lead Risk Reduction

EPA has authorized 42 states, territories and tribes to administer and enforce programs for lead accreditation certification, and workplace standards in target housing. Although all states, territories and tribes will not adopt the program, we intend to encourage several more to do so. However, EPA will administer and enforce the Federal lead program in all non-authorized states, territories and tribes.

With implementation of the training, certification and accreditation program by states, territories or tribes, or in some cases by EPA, additional data is becoming available to help

¹⁹ Centers for Disease Control, National Center for Health Statistics, National Health and Nutrition Examination Survey: 1999-2002. Available at <http://www.cdc.gov/nchs/nhanes.htm>

²⁰ Department of Housing and Urban Development, National Survey of Lead and Allergens in Housing

²¹ Department of Housing and Urban Development, National Survey of Lead and Allergens in Housing

measure progress in reducing childhood lead poisoning and elevated blood-lead levels. EPA is working to be able to measure progress in reducing lead-based paint exposures through the collection of data associated with the Lead Abatement Program. In addition, the Agency will know how many professionals become certified as risk assessors, inspectors, workers or supervisors. This data will be used to measure the growth of a well-trained workforce capable of performing abatements safely and reliably. HUD cites the availability of this workforce as a key prerequisite for their lead abatement in housing program.

National Program Chemicals Program

Most chemicals were introduced into commerce before the potential risks were known. A number of these chemicals are both prevalent and high-risk. The Agency has established a national program to manage reductions in use, safe removal, disposal or containment of these chemicals, as appropriate. Significant risks are well established for polychlorinated biphenyls (PCBs), asbestos, and dioxin, for example, and reductions in use and releases have been important to reducing exposure of the general population and sensitive subpopulations.²² Risk reduction efforts on these chemicals will continue to meet the mandates under TSCA and fulfill the commitments made in domestic and international agreements. The Agency will also pursue opportunities for risk reduction for mercury, and for certain industrial fibers that may pose risks in the workplace.

PCBs

In 2004, EPA's PCB control efforts will continue encouraging the phase out of PCB electrical equipment, ensuring proper storage or waste disposal methods and capacity and fostering PCB site cleanups. These activities are reflected in our Annual Performance Goals, which measure disposal trends since 1990. Recent rulemakings have provided industry with the opportunity to propose alternative risk-based PCB cleanups. Also, the Agency will continue to review existing approvals for facilities that treat, store and/or dispose of PCBs, on a five to ten year renewal cycle.

Mercury

In 2002 EPA and the Environmental Council of States (ECOS) commenced a cooperative agreement to provide logistical support for specific joint projects on mercury between EPA and the Quicksilver Caucus. The Quicksilver Caucus is a coalition of state government organizations formed to highlight their concerns about mercury pollution. The group includes state air, water, and waste associations, ECOS, the National Governors Association, and other state organizations. (www.epa.gov/pbt/whatsnew)

Mercury policy issues to be addressed by EPA and the Quicksilver Caucus states during 2003 and 2004 include: (1) how to meet mercury reduction goals for specific water bodies where mercury pollution is caused primarily by air deposition and/or abandoned mines; and (2) how to ensure safe stewardship of mercury stocks and mercury-containing wastes. The

²² EPA web page - Frequently Asked Questions- How do PBTs harm us and the environment?
<http://www.epa.gov/pbt/faq/htm>

Quicksilver Caucus states will also be providing comments and counsel as EPA develops its Agency-wide Mercury National Action Plan, which is targeted for publication in late 2004 or early 2005.

Asbestos

EPA's most significant ongoing activities on asbestos include the following:

- Assessing and cleaning up asbestos-contaminated sites related to Libby, MT,
- Reviewing EPA's sampling, analytical and risk assessment tools for asbestos; and
- Evaluating potential exposures and risks from asbestos in consumer products.

In late 1999, EPA initiated a series of activities in response to renewed concerns about asbestos contamination in vermiculite, a common building insulating material and soil conditioner. In 2004, EPA will continue to examine results from its studies into the potential for exposure to asbestos fibers from vermiculite in building insulation materials. In addition, the Agency is seeking input on options for the future direction of its administrative asbestos program under TSCA. EPA has formed the Asbestos Focus Group to elicit recommendations to the Agency from external parties on program priorities and resources. EPA will then move to refocus its efforts to reduce exposure to this fiber, which causes various cancerous and non-cancerous diseases in humans.

In late 1999, EPA initiated a series of activities in response to renewed concerns about asbestos contamination in vermiculite, a common building insulating material and soil conditioner. In 2004, EPA will continue to examine results from its studies into the potential for exposure to asbestos fibers from vermiculite in building insulation materials. In addition, the Agency is seeking input on options for the future direction of its administrative asbestos program under TSCA. EPA has formed the Asbestos Focus Group, representatives from industry, academia, public interest and labor groups, national experts on asbestos, and officials from State and Federal agencies to make recommendations to the Agency on program priorities and resources, which will help EPA in its efforts to reduce exposure to this fiber, which has been shown to cause various cancerous and non-cancerous diseases in humans.

Outreach and technical assistance will continue in the asbestos program for schools, in coordination with the Occupational Safety and Health Administration (OSHA) and the states. A new project to determine the risks to homeowners and remodelers from asbestos-contaminated vermiculate home insulation is underway.

Dioxin

EPA plans to develop an Agency-wide dioxin strategy to respond to new findings in the scientific community concerning the potential risks of dioxin and address dioxin risk management in a more comprehensive cross-media approach. EPA will continue to be part of an interagency effort to assess potential dioxin risks to the public, focusing on identifying and better quantifying the link of potential exposures of dioxin sources to the public. Results from the

Agency's Dioxin Exposure Initiative (DEI) have already resulted in significant advances in our understanding of dietary routes of exposure. In addition, DEI results to date have established baseline measurements of dioxins in food and air that will permit the tracking of environmental trends and evaluation of the effectiveness of dioxin risk management programs.²³ This work complements similar efforts by the United States Department of Agriculture and the Food and Drug Administration to establish baseline measurements of dioxins in food.

FY 2004 Change from FY 2003 Request

EPM

- (+\$1,666,600, +1.9 FTE) Increased support for development of proposed rule for safe deleading of bridges and other structures, enabling proposed rule to be published in the Federal Register in 2004.
- (+\$511,600, +2.9 FTE) Increased support for the National Program Chemicals Program, including asbestos.

GOAL: PREVENTING POLLUTION AND REDUCING RISK IN COMMUNITIES, HOMES, WORKPLACES AND ECOSYSTEMS

OBJECTIVE: REDUCE RISKS FROM LEAD AND OTHER TOXIC CHEMICALS

Annual Performance Goals and Measures

GOAL: PREVENTING POLLUTION AND REDUCING RISK IN COMMUNITIES, HOMES, WORKPLACES AND ECOSYSTEMS

OBJECTIVE: REDUCE RISKS FROM LEAD AND OTHER TOXIC CHEMICALS

Annual Performance Goals and Measures

Exposure to Industrial / Commercial Chemicals

- In 2004 Reduce exposure to and health effects from priority industrial / commercial chemicals
- In 2002 Preliminary data lends to our confidence that this goal will be met. We will provide the data and explanation as soon as they are available and it will be in time for the FY 2002 APR

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Safe Disposal of Transformers			8,000	Transformers
Safe Disposal of Capacitors			6,000	Capacitors
Number of individuals certified nationally to perform lead-based paint abatement.	4574		18,000	cert. ind. cum
number of children aged 1-5 years with elevated blood lead levels (>10 ug / dl)			tbd	children

Baseline: The baseline for number of certified individuals for lead paint abatement is zero in 2000. The baseline for PCB transformers is 2.2 million units and for capacitors is 1.85 million units as of 1988 as noted in the 1989 PCB Notification and Manifesting Rule.

²³U.S. EPA, Dioxin Exposure Initiative, www.epa.gov/pbt/whatsnew

Program Assessment Rating Tool

Existing Chemicals

As part of the Administration's overall evaluation of effectiveness of Government programs, the Existing Chemicals program was evaluated with the following specific findings:

- The program has strong purpose and management. The program, however, lacks strategic planning.
- The program cannot demonstrate any long-term impact. EPA's long-term goal does not focus on outcomes and lacks a baseline and clear time frames. The program also does not have an efficiency measure.
- The program has demonstrated few results. EPA has reviewed approximately two percent of existing chemicals. GAO found that EPA has been slow to address these chemicals.
- The law requires that EPA compile industry data, which can be costly and time consuming.
- EPA's current annual performance goals cannot be assessed because data are not available until two years into the future.

In response to these findings the Administration will:

- Provide \$1 million above the 2003 President's Budget to develop acute exposure chemical guidelines (AEGLs). AEGLs are important for homeland security response, recovery, and preparedness. AEGLs represent three tiers of health effects (discomfort, disability, death) for five exposure durations (eight hours or less). This funding will help EPA to obtain more information on the possible harm to humans and the environment from chemicals, which will help the Agency to achieve a higher level of accountability and results.
2. Establish better performance measures, including efficiency measures.

Verification and Validation of Performance Measures

FY 2004 Performance Measure:

- **Safe disposal of PCB transformers**
- **Safe disposal of PCB large capacitors**

Performance Database: PCB Annual Report Database.

Data Source: Annual Reports from commercial storers and disposers of PCB Waste.

Methods, Assumptions, and Suitability: Data is to provide a baseline for the amount of PCB waste disposed of annually.

QA/QC Procedures: The Agency reviews, transcribes, and assembles data into the Annual Report Database.

Data Quality Reviews: The Agency contacts data reporters, when needed, for clarification of data submitted.

Data Limitations: Data limitations include missing submissions from commercial storers and disposers, and inaccurate submissions. PCB-Contaminated Transformers 50 to 499 ppm PCBs and those that are 500 ppm PCBs or greater are not distinguished in the data. Similarly, large and small capacitors of PCB waste may not be differentiated data are collected for the previous calendar year on July 1 of the next year creating a lag of approximately one year. Despite these limitations, the data does provide the only estimate of the amount of PCB waste disposed annually.

Error Estimate: N/A.

New/Improved Data or Systems: None

References: None

FY 2004 External Performance Measure: Number of certified individuals nationally

Performance Database: EPA's regional office records.

Data Source: Currently, all information is received through informal reporting from EPA's regional offices, and originates from information submitted via certification applications. In the future, we will track certifications centrally.

Methods, Assumptions, and Suitability: This is an output measure tracked directly through the Office of Pollution Prevention and Toxics' record-keeping systems. No models or assumptions or statistical methods are employed. Data are aggregated nationally and suitable for cross year comparisons.

QA/QC Procedures: Applicants are given photo identifications to prevent cheating at certification testing centers. EPA Headquarters reviews applications for completeness, including checking for the required information and materials. EPA's regional offices review applications for quality, including a more substantive review of the application. Third-party test centers have extensive QA/QC controls under their contract with EPA.

Data Quality Reviews: Data quality reviews of records maintained at the test centers are conducted by EPA Regional Offices during routine compliance monitoring of the centers using Office of Enforcement and Compliance Assurance procedures²⁴. The reviews have found

²⁴ U.S. EPA Office of Enforcement and Compliance, <http://www.epa.gov/compliance/resources/policies/index.html>

occasional discrepancies but no regional or national trends have surfaced requiring substantive modifications to any record keeping or QA/QC procedures.

Data Limitations: We have certification data from nine out of ten EPA regional offices. We expect that the remaining regional office would add no more than 300 certified entities to the baseline count. If an individual or firm was certified in more than one EPA region, they have been double-counted. We expect that these difficulties will be resolved once we have in place a centralized database.

Error Estimate: N/A.

New/Improved Data or Systems: We hope to have a centralized, contractor-run tracking system in place by 2003.

References: None.

FY 2004 External Performance Measure: Number of children aged 1-5 years with elevated blood lead levels (>10 ug/dL)

Performance Database: Centers for Disease Control and Prevention's (CDC) National Health and Nutrition Examination Survey (NHANES)

Data Source: The National Health and Nutrition Examination Survey (Centers for Disease Control, National Center for Health Statistics, National Health and Nutrition Examination Survey: 1999-2002. Available at <http://www.cdc.gov/nchs/nhanes.htm>) is a coordinated program of studies designed to assess the health and nutritional status of adults and children in the United States. The program began in the early 1960's and continues. The survey examines a nationally representative sample of approximately 5000 people each year located across the United States

Methods, Assumptions, and Suitability: Detailed interview questions cover areas related to demographic, socio-economic, dietary, and health-related questions. The survey also includes an extensive medical and dental examination of participants, physiological measurements, and laboratory tests. Specific laboratory measurements of environmental interest include: heavy metals (lead, cadmium, and mercury), VOC exposures, phthalates, organophosphates (OPs), pesticides and their metabolites, non-persistent pesticides, dioxins/furans and polycyclic aromatic hydrocarbons (PAHs). NHANES is unique in that it links laboratory-derived measurements of exposure (urine, blood etc.) to questionnaire responses and results of physical exams.

CDC publishes a "National Report on Human Exposure to Environmental Chemicals," (Centers for Disease Control, National Center for Health Statistics, National Health and Nutrition Examination Survey: 1999-2002. Available at <http://www.cdc.gov/nchs/nhanes.htm>) which reflects findings from NHANES. It provides ongoing surveillance of the United States population's exposure to environmental chemicals. The 1999 report provides measurements of exposure to 27 chemicals based on blood and urine samples from people participating in NHANES 1999. Current plans for future reports include expanding the number of chemicals to 100 (in order to include carcinogenic volatile organic compounds, carcinogenic PAHs, dioxins and furans, PCBs, trihalomethanes, haloacetic acids, and carbamate and organochlorine

pesticides). Future reports will provide details among different populations stratifying results by gender, race/ethnicity, age, urban/rural residence, education level, income, and other characteristics. CDC will track these indicators over time. Data will assist regulators in analyzing trends over time, the effectiveness of public health efforts, and exposure variations among sub-populations.

QA/QC Procedures: Quality assurance plans are available from both CDC and the contractor, WESTAT, as outlined on the web site <<http://www.cdc.gov/nchs/nhanes.htm>> under the NHANES section.

Data Quality Reviews: CDC follows standardized survey instrument procedures to collect data to promote data quality, and data are subjected to rigorous QA/QC review. CDC/NCHS has an elaborate data quality checking procedure outlined on the web site <<http://www.cdc.gov/nchs/nhanes.htm>> under the NHANES section.

Data Limitations: The NHANES survey uses two steps, a questionnaire and a physical exam. For this reason, there are sometimes different numbers of subjects in the interview and examinations and special weighting techniques are needed. Additionally, the number of records in each data file varies depending on gender and age profiles for the specific components. Demographic information is collected but not available at the highest level of detail in order to protect privacy. Body burden data are evidence of human exposure to toxic substances; however, linkages between evidence of exposure and source of exposure have yet to be made for many substances. In the case of lead, the correlation is strongly documented.

Error Estimate: Because NHANES III is based on a complex multi-stage sample design, appropriate sampling weights should be used in analyses to produce national estimates. Several statistical methodologies can be used to account for unequal probability of the selection of sample persons. The methodologies and appropriate weights are provided at www.cdc.gov/nchs/about/major/nhanes/nhanes3/cdrom/nchs/MANUALS/NH3GUIDE to help generate appropriate error estimates.

New/Improved Data or Systems: NHANES is moving to an annual schedule. The sample design allows for limited estimates to be produced on an annual basis and more detailed estimates to be produced on 3-year samples.

References: CDC publishes a "National Report on Human Exposure to Environmental Chemicals," which reflects findings from NHANES. (<http://www.cdc.gov/nchs/nhanes.htm>)

Coordination with Other Agencies

The success of EPA's lead program is due in part to effective coordination with other Federal agencies, states and Indian tribes. EPA will coordinate with HUD to clarify how new rules may affect existing EPA and HUD regulatory programs, with the Federal Highway Administration of the Department of Transportation, and with the Occupational Safety and Health Administration (OSHA) of the Department of Labor on worker protection issues. EPA will continue to work closely with state and Federally recognized tribes to ensure that authorized State and Tribal programs continue to comply with requirements established under TSCA, that

the ongoing Federal accreditation certification and training program for lead professionals is administered effectively, and that the States and tribes adopt the Renovation and Remodeling and the Buildings and Structures Rules when these rules become effective.

EPA has a Memorandum of Understanding (MOU) with HUD on coordination of efforts on Lead-based paint issues. As a result of the MOU, EPA and HUD co-chair an Interagency Task Force that has been regularly meeting since 1989. There are 14 other Federal agencies including CDC and Department of Defense (DOD) on the Task Force. In another joint effort, EPA, HUD, and the National Institutes of Standards and Technology (NIST) have been working to identify reliable at-home test kits for lead based paint to recommend to do-it-yourself renovators. HUD and EPA also have a joint Lead Hotline and share enforcement of the Disclosure Rule.

Mitigation of existing risk is a common interest for other Federal agencies addressing issues of asbestos and PCBs. EPA will continue to coordinate interagency strategies for assessing and managing potential risks from asbestos and other fibers. Coordination on safe PCB disposal is an area of ongoing emphasis with the Department of Defense (DOD), and particularly with the US Navy, which has special concerns regarding ship scrapping. PCBs and mercury storage and safe disposal are also important issues requiring coordination with the Department of Energy and DOD as they develop alternatives and explore better technologies for storing and disposing high risk chemicals.

Statutory Authorities

Toxic Substances Control Act (TSCA) section 4, 5, 6, 8, 12(b) and 13 (15 U.S.C. 2603_5,2607,2611 and 2612

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems

Objective: Manage New Chemical Introduction and Screen Existing Chemicals for Risk

By 2007, prevent or restrict introduction into commerce of chemicals that pose risks to workers, consumers, or the environment and continue screening and evaluating chemicals already in commerce for potential risk.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Manage New Chemical Introduction and Screen Existing Chemicals for Risk	\$76,449.4	\$77,538.2	\$81,531.2	\$3,993.0
Environmental Program & Management	\$54,789.3	\$52,388.6	\$55,902.8	\$3,514.2
Science & Technology	\$21,660.1	\$25,149.6	\$25,628.4	\$478.8
Total Workyears	398.7	391.2	393.5	2.3

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Community Assistance	\$474.4	\$507.1	\$0.0	(\$507.1)
Congressionally Mandated Projects	\$487.5	\$0.0	\$0.0	\$0.0
Endocrine Disruptor Screening Program	\$2,952.8	\$2,934.2	\$2,907.3	(\$26.9)
Environmental Monitoring and Assessment Program, EMAP	\$66.0	\$0.0	\$0.0	\$0.0
Existing Chemical Data, Screening, Testing and	\$28,286.4	\$28,331.9	\$29,667.0	\$1,335.1

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Management				
Facilities Infrastructure and Operations	\$5,983.8	\$5,600.5	\$6,606.5	\$1,006.0
Homeland Security-Critical Infrastructure Protection	\$400.0	\$0.0	\$1,109.1	\$1,109.1
Legal Services	\$912.3	\$979.6	\$1,021.9	\$42.3
Management Services and Stewardship	\$824.5	\$725.8	\$852.8	\$127.0
New Chemical Review	\$12,477.2	\$13,123.8	\$13,440.6	\$316.8
Research to Support Safe Communities	\$21,593.6	\$25,149.6	\$25,628.4	\$478.8
Science Coordination and Policy	\$177.1	\$185.7	\$297.6	\$111.9

FY 2004 Request

This objective includes work in four broad program areas:

- governing the introduction of new chemicals into commerce (chemicals in the process of commercialization);
- assessing the risks of existing chemicals (chemicals in commerce);
- screening and testing chemicals for endocrine disruptor effects; and
- assessing the safety of biotechnology products and genetically modified organisms.

These programs are pivotal to reducing current and future risk by preventing or controlling the production of new chemicals that pose unreasonable risks and assessing and addressing the risks of chemicals already in commerce.

One of the major priorities in FY 2004 is improving the amount of human health and environmental effects data on industrial chemicals, and ensuring public access to the information. Currently there is little information available on the potential hazards of most chemicals manufactured and used in everyday products and industrial processes.

Without this information, we may not be able to effectively identify and evaluate the human health and environmental risks posed by these chemicals. Although the HPV Challenge screening program does not include actual risk assessments on these chemicals, the information collected will allow a high-level screening for potential concerns. In addition, relatively little is known about the unique effect on children's health of chemicals that are widely used in children's products or those that otherwise have high potential for exposure to children.

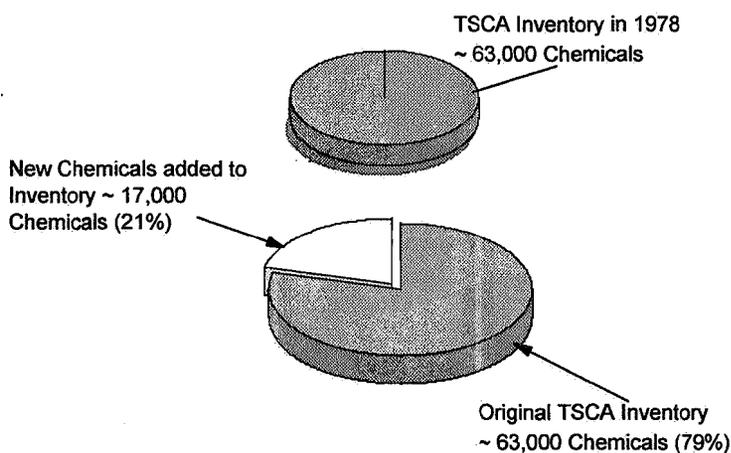
EPA's High Production Volume (HPV) Challenge Program targets 2,800 chemicals produced and/or imported in the United States (in quantities of at least one million pounds or greater annually). Working in partnership with industry and environmental organizations, the Agency has been ensuring that basic screening-level data on these chemicals are made public. The HPV Challenge Program will help prioritize EPA's chemical risk assessment and management activities and increase the amount of information on chemical uses, exposures and risks that EPA can provide to the public.

New Chemicals Program

The Toxic Substances Control Act (TSCA) requires EPA to review a chemical or microorganism before it is manufactured commercially (i.e., a "new" chemical) to determine whether it can be handled and used safely. If the Agency determines that an unreasonable risk may be posed to people or the environment, EPA can block the chemical's entry into commerce or establish control measures to ensure the chemical's safety in the marketplace. Since 1979, EPA has reviewed more than 39,000 pre-manufacturing notifications (PMNs) and taken actions to control risks for about 10 percent of these chemicals and microorganisms.²⁵ Since EPA's inception, approximately 17,000 new chemicals reviewed by the program have entered United States commerce.

In 2004, EPA expects to receive and assess within the TSCA mandated 90-day review period approximately 1,700 additional PMNs. As part of its review of new chemical substances, the Agency has developed an array of innovative, efficient screening mechanisms. During a new chemical review for commercial chemicals in the process of commercialization, the Agency routinely works with industry to share any options and suggestions it may have on process improvements, or to produce new chemicals more safely.

Chemicals on TSCA Inventory in 2002

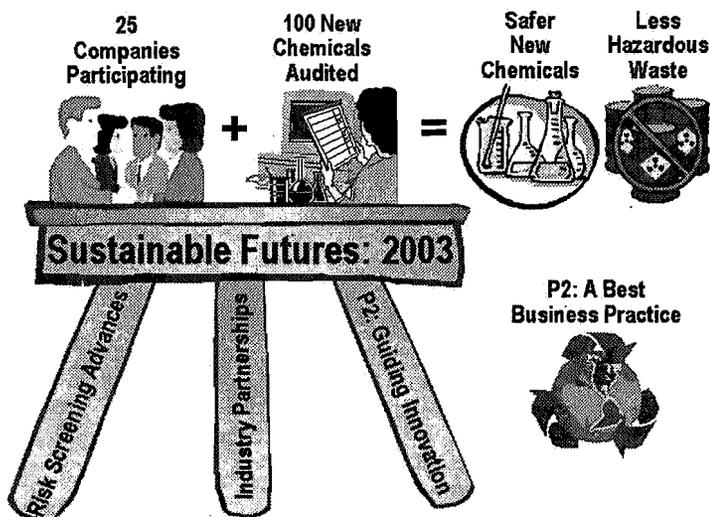


The previous chart indicates substantial progress made in the New Chemicals Program since its inception in 1978. In FY 2002 (partial year, October through August), there were potentially 79,676 chemicals in commerce; 17,070 of these chemicals, or 21 percent, had gone

²⁵ U.S. EPA, Office of Pollution Prevention and Toxics, TSCA New Chemicals Program Annual Report and the TSCA New Chemicals Program Website <http://www.epa.gov/oppt/newchems/accomplishments.htm>

through the TSCA Premanufacture Notice review process and entered into commerce following submittal of a Notice of Commencement of Manufacturing.²⁶ These chemicals have been assessed for risks, and controls are in place as necessary. In recent years, a growing number of these chemicals are becoming “greener,” or safer, due to several influences. Although the New Chemicals Program has always been inherently a Pollution Prevention (P2) program, it has evolved over the years to have an increased P2 focus. In addition, the New Chemicals Programs continues to coordinate with several voluntary P2 programs such as the P2 Framework, Green Chemistry, Green Engineering, and P2 Recognition Programs.

The New Chemicals Program also examines new microorganisms derived from biotechnology to ensure that potential risks have been evaluated and that adequate controls are in place before they are released into the environment. Outreach and technical assistance to encourage safer chemicals and chemical production and use include Green Chemistry and Green Engineering textbooks and other publications, a reference compendium, laboratory manuals, symposia and actual course work materials, all developed in partnership with industry, professional organizations and universities.



In 2003, the Agency plans to launch “Sustainable Futures,” a program that offers an expedited Pre-Manufacturing Notification process to companies that take training in the use of the methods and apply the results toward development of safer chemicals. The Agency, working with others in the scientific community, has developed computerized methodologies that look at the structure of chemicals and estimate potential hazard and risk. The methods, called the Pollution Prevention Framework and the Persistent, Bioaccumulative, Toxic (PBT) Profiler can be used to identify hazardous chemicals even before product manufacture begins. EPA is encouraging industry to use these screening-level tools, used internally by EPA, to evaluate chemical alternatives early in the research and development stage. Industry response to a pilot program in 2002 was very positive.

EPA’s technology transfer efforts introduced these risk-screening methods to the industry in 2001 and 2002, and the response was both positive and dramatic. The participating companies have indicated that the methods identified safer alternatives early in the product development cycle, when pollution prevention, product substitution, and risk reduction are most cost effective. The companies also found that the models reduced production costs, shortened time to market, and reduced generation of waste.²⁷ Under a pilot program (Project XL), EPA provided

²⁶ U.S. EPA, Office of Pollution Prevention and Toxics, Annual Performance Measure Tracking Files

²⁷ American Chemistry Council, Chlorine Chemistry Council, and Synthetic Organic Chemical Manufacturers Association, Industry Statement on EPA's PBT Profiler (September 26, 2002); press statement: Environmental

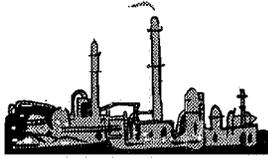
regulatory relief to two companies that used the tools as an integral part of product development. In a "win-win" result, industry saved time and money and the environment saw inherently safer chemicals.²⁸ EPA will expand the use of the risk screening tools developed from Project XL to other companies to assist them in selecting safer chemicals for use in their products and processes. By 2003, these screening tools should be accessible to a wide range of public and industry users, and EPA will offer regulatory relief to companies that use these tools, resulting in low hazard/low risk new chemical submissions. In 2004, there should be additional capabilities introduced to more fully address health endpoints of concern.

Assessing Existing Chemicals

One of EPA's critical responsibilities under TSCA is to identify and control any unreasonable risks that might be associated with the thousands of chemicals which are already in commerce.²⁹ The Agency will complete assessments of Methyl Tertiary Butyl Ether (MTBE), a gasoline additive, and several other chemicals used in a wide variety of commercial products and industrial processes. EPA's strategy for addressing the remaining chemicals in commerce is to foster the public availability of risk screening information to allow states, communities, industry, and the public to act on their own and in concert with EPA to reduce potential risks posed by these chemicals.

HPV Challenge Program
2800 HPV Chemicals Need Hazard Data
(data as of May 2002)

357 companies including 106 consortia
have voluntarily sponsored 2,206
HPV chemicals



EPA's High Production Volume (HPV) Challenge Program focuses on remedying the lack of critical human health and environmental effects information on industrial chemicals. In FY 2004, EPA will continue to review and make publicly available hazard screening data on HPV chemicals, which are those chemicals that are manufactured or imported into the United States in quantities of at least one million pounds. While the focus in the early years of the HPV Challenge Program was on evaluating the adequacy of existing data, new data generated under the program will now need assessment. In FY 2002 EPA's HPV Challenge Program continued to provide health and environmental effects screening data for more than 800 industrial and commercial chemicals. EPA's efforts in making these data available on the Agency's HPV web

Defense Offers Support for New EPA Internet Tool (Washington, DC, September 25, 2002). Available at <http://www.epa.gov>

²⁸ American Chemistry Council, Chlorine Chemistry Council, and Synthetic Organic Chemical Manufacturers Association, Industry Statement on EPA's PBT Profiler (September 26, 2002); press statement: Environmental Defense Offers Support for New EPA Internet Tool (Washington, DC, September 25, 2002). Available at <http://www.epa.gov>

²⁹ TSCA - 15 USC 2605; regulations at 40 CFR, Chapter 1, Subchapter R, revised as of July 1, 2002.

site kept pace with the unprecedented volume of data submitted by industry participants.³⁰ The Agency intends to further evaluate whether additional assessment is warranted for chemicals to which children are exposed. The Voluntary Children's Chemical Evaluation Program (VCCEP) was launched in 2001. Industry commitments to "Tier 1" have been received thus far for 20 of the 23 chemicals identified for a pilot program.³¹ The first chemical cases are estimated to be subject to peer consultations in 2003 to 2004.

Prior to the start of the HPV Challenge Program, insufficient hazard information existed in the public domain for many of these chemicals that we use daily. Only 7 percent of the 2,800 HPV chemicals had a publicly available full set of basic information on health and environmental effects. Only 25 percent of consumer chemicals (those used by children and families in consumer products) had a full set of publicly available basic information. In addition, the Agency is continuing its work with other countries in the Organization for Economic Cooperation and Development's (OECD's) Existing Chemicals Program to further expand the availability of risk screening information.

Much of the focus of the Agency in FY 2003 is assessing the validity of small groups or categories of HPV chemicals proposed by industry. Such categories of chemicals can be considered together because of their similar structure or toxicological properties. In FY 2004, as new data generated to support these categories become available, the Agency will shift its focus to evaluating the category analyses submitted by industry sponsors to ensure that the assumptions made in formulating the categories are met and that the use of a category approach to assessing, interpolating and extrapolating the health and environmental effects across the individual chemicals within them is justified. As such, the focus in FY 2004 will be on priority setting to determine whether further action is warranted--whether it is higher order health or ecological testing, collection of exposure data to begin an evaluation of risk, and/or risk management action undertaken by the Agency, industry, or the informed public. In addition, the Agency will explore using the hazard classification guidelines currently being developed in the OECD, which characterize chemicals from a hazard standpoint. Finally, the use of structure-activity relationships for higher order health and ecological effects predictions will be developed and applied to determine which chemicals should be considered for further action. These efforts will be coordinated with a pilot process now within the OECD's Existing Chemicals Program.

In FY 2004, the Agency will continue to work with stakeholders to explore possibilities for identifying use information. Use information would allow the Agency to identify chemical exposure pathways, better assess risks associated with such exposures, and identify potential unsafe uses of household chemicals and other consumer products.

The Existing Chemicals program collects information through other avenues as well. The Inventory Update Rule³² under TSCA section 8(a) is routinely used to determine potential nationwide and local exposure to specific industrial chemicals, and provides reliable production volume information for chemicals in commerce. EPA's TSCA Section 8(d) reporting rule was

³⁰ U.S. EPA, Office of Pollution Prevention and Toxics, High Production Volume Challenge Program, Chemical Hazard Data Availability Study, April 1998 - <http://www.epa.gov/chemrtk/hazchem.pdf>

³¹ U.S. EPA, Office of Office of Pollution Prevention and Toxics, Voluntary Children's Chemicals Evaluation Program (VCCEP) Commitment Tracking System. Available at <http://www.epa.gov/chemrtk/viewsrch.htm>

³²40 CFR part 710, as amended by 68 FR 848, January 7, 2003

developed to gather unpublished health and safety information needed by the TSCA Interagency Testing Committee (ITC), EPA program offices and other Federal Agencies. In 2004, EPA will support the TSCA ITC in carrying out its statutory mandate to formally recommend whether EPA should issue TSCA Section 4 Test Rules for identified industrial chemicals.

Section 8(e) is a mandatory provision of TSCA that requires immediate reporting to EPA by anyone who produces, imports, processes or distributes a chemical substance or mixture in commerce and who obtains information that "reasonably supports a conclusion" that such substance or mixture presents a substantial risk of injury to human health or the environment. EPA immediately reviews all incoming TSCA Section 8(e) notices and determines the need for and priority of action on the part of the Agency. Such actions could include referral to other Federal agencies.

Another existing chemical program of growing importance is the Acute Exposure Guideline Levels Program (AEGLE). The purpose of the AEGLE is to develop information on the health effects of acute exposure to toxic chemicals. The AEGLE values represent three tiers of health effect endpoints (discomfort, disability and death) for five different exposure durations (ten and thirty minutes, one, four and eight hours) in order to provide maximum flexibility and applicability to chemical emergency planners and responders. The analysis generates exposure values that indicate what levels of chemicals cause concern, providing key information to first responders to chemical spills, so they can determine what precautions to take and also how to treat citizens who may be on the scene. In 2004, the AEGLE program, which is peer-reviewed by the National Academy of Sciences, will continue its efforts to generate concern values for chemicals which are used in all aspects of emergency responses involving chemical spills including response, recovery, preparedness, and mitigation.

Homeland Security

To prepare for catastrophes that may occur and to improve our nation's toxic incident response capabilities, EPA proposes to increase the pace at which Acute Exposure Guideline Levels (AEGLE's) are developed and approved for chemicals in commerce. It is noteworthy that the National Academy of Sciences strongly recommends such an increased effort.³³

The AEGLE program, mandated by Congress and designed by EPA, directly resulted from a catastrophic toxic incident-- the mass killing of workers and community members by the accidental release of methyl isocyanate from a US owned chemical plant in Bhopal, India in 1984. AEGLE's are short-term exposure limits applicable to the general population for a wide range of extremely hazardous substances (approximately 400) for purposes of chemical emergency response, planning, and prevention related to chemical accidents and chemical terrorism. To date, the program has developed AEGLE's for approximately 90 chemicals with Proposed, Interim or Final status.³⁴ However, approximately 300 extremely hazardous substances remain to be addressed.

³³ Public meeting, AEGLE Federal Advisory Committee, December 9-11, 2002

³⁴ U.S. EPA, Office of Prevention, Pesticides, and Toxic Substances, Overview of the Acute Exposure Guideline Levels (AEGLE) Program (June 2002).

The existing chemicals program provides direct scientific and technical support for the development of emergency exposure limits used within EPA and by many others. AEGL's are also needed by other Federal and state agency stakeholders. EPA leads the collaborative effort that includes nine Federal agencies (EPA, DOE, DOD, DOT, NIOSH, OSHA, CDC, ATSDR, and FDA), numerous state agencies, private industry, academia, emergency medical associations, unions, and other organizations in the private sector.

The program has also been extended to the international community, with the endorsement of the OECD and active participation by the Netherlands, Germany, and France. Recently, Russia has sent a delegation to pursue ongoing participation. The objective is to develop one standardized set of scientifically sound short-term exposure values that will be used worldwide for all chemical emergencies.

The availability of the AEGL values is critical for Response, Recovery, Preparedness, and Mitigation.

- **Response:** AEGL values provide emergency responders with valuable information for decision-making on such actions as evacuations and shelter-in-place and critical guidance regarding accessibility of contaminated sites to responders and use of personal protective equipment.
- **Recovery:** AEGL values can be used to determine whether restoration procedures can be implemented in contaminated areas or whether evacuated populations may return and normal activities may resume.
- **Preparedness:** AEGL values are extremely valuable in planning and preparedness because they are critical to scientifically credible release and dispersion modeling and the determination of "vulnerable zones" and "safe zones" in the event of a toxic chemical release. This planning identifies important facilities such as schools, hospitals, emergency response facilities, media communication centers, etc. that may be located in "vulnerable zones" and highlights the need for special preparedness actions.
- **Mitigation:** The Preparedness or planning efforts underscore the critical facilities and circumstances where mitigation actions can be taken to reduce the risk associated with chemical terrorist attacks.

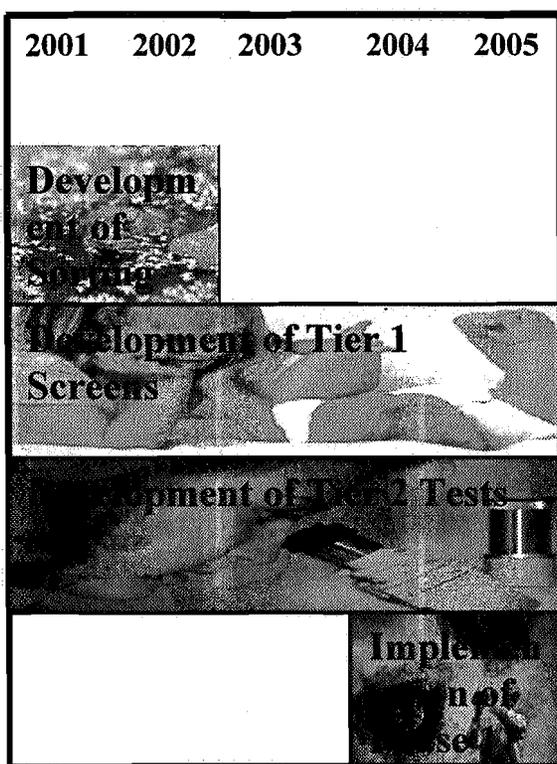
Endocrine Disruptor Program

There is increasing evidence that fish and wildlife has been affected by chemicals that interfere with the endocrine system resulting in abnormal development, low fertility and greater susceptibility to disease. The link to human disease is less clear at ambient environmental levels, although effects have been observed at fish exposure sites.³⁵

³⁵ International Program on Chemical Safety (2002), Global assessment of the state-of-the-science of endocrine disruptors. WHO/PCS/EDC/02.2

The Food Quality Protection Act Amendments of 1996 mandated that EPA test pesticides for estrogen effects on human health. The Safe Drinking Water Act Amendments of 1996 permit EPA to test contaminants found in drinking water sources. Given the scientific controversy over the testing of chemicals for their endocrine disrupting effects, the Agency established the Endocrine Disruptor Screening and Testing Advisory Committee (EDSTAC) under the Federal Advisory Committee Act. EDSTAC included representatives from industry, environmental and public health groups, academia, and Federal and state government. On the basis of science, EDSTAC recommended that the screening program include: commercial chemicals and contaminants; estrogen, androgen and thyroid endpoints; and wildlife as well as human health effects.

Schedule for the Development and Implementation of the Endocrine Disruptor Chemical Screening Program



Sorting and Priority Setting

narrows the list of chemicals from the list of 87,000 using existing chemical data and screening tools

Tier 1 Screens is a battery of in vitro and in vivo short-term screening assays that identify chemicals having the potential to interact with the estrogen, androgen and thyroid systems. Chemicals that screen positive in Tier 1 screening battery will be tested in Tier 2.

Tier 2 Tests consists of multi-generation tests in mammals, birds, fish, amphibians and invertebrates and will provide information on the adverse effects of the chemical and other information needed to assess the hazard of substances to these organisms.

Phase 1 Implementation starts testing chemicals from the sorting and priority setting stage using the validated Tier 1 assays.

EPA based its EDSP on the EDSTAC recommendations. The EDSP is a two-tiered program. Tier 1 is a battery of in vitro and in vivo short-term screening assays that identify chemicals that have the potential to interact with the estrogen, androgen, and thyroid systems. Chemicals positive in the Tier 1 screening battery will be tested in Tier 2. Tier 2 consists of multi-generation tests in mammals, birds, fish, amphibians and invertebrates and will provide information on the adverse effects of the chemical and other information needed to assess the hazard of substances to these organisms. FQPA mandated that all assays used in the EDSP be validated. Validation is a science-based process and has required application of cutting edge science, domestic interagency and international cooperation, and ongoing stakeholder involvement. In 2004 EPA will continue to develop and validate Tier 1 and 2 screens and tests.

In 2004 EPA plans to start testing chemicals identified through the Sorting and Priority Setting Stage using validated Tier 1 screening assays.

Research

There are 80,000 chemicals in the Toxic Substances Control Act (TSCA) inventory with approximately 1,700 chemicals added annually. Each year, 1 billion pounds of active ingredients found in conventional pesticides are applied in the United States. Release of these chemicals into the environment through industrial, agricultural, and other processes, can pose serious risks to both human health and ecosystems. Therefore, the continued development and validation of improved human health and ecological risk assessment methods is one of the Agency's high priority research needs.

The research conducted under this objective provides direct support to EPA's Office of Prevention, Pesticides, and Toxic Substances. The exposure measures, methods, and models being developed in this program are intended to characterize actual exposures to pesticides and toxics and to better understand the key factors influencing these exposures. The effects methods and models developed in these areas are used to obtain toxicity data and assess and manage risks of toxic agents under TSCA and the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). The results of the application of methods developed under this research program will significantly increase understanding of the impacts of specific classes of pesticides and toxic substances on human health.

EPA's Safe Communities Research Program is designed to: 1) produce more near-term results (e.g., models, better data) for EPA's regulatory-driven needs that are directly applicable to the development of test guidelines required for implementation of TSCA and FIFRA; 2) address human and ecological risks resulting from exposures to toxic chemicals; and 3) develop exposure, effects, risk assessment, and risk management methods for evaluating data submitted under TSCA and FIFRA. The research program supports both human health and ecosystem protection research and is complemented by relevant research described under Goal 8, Sound Science that is of longer-term and broader focus.

This goal is supported by multiple EPA long-range research planning documents, including: 1) the Draft Safe Communities Multiyear Plan; 2) the Research Strategy on Environmental Risks to Children; and 4) the Ecological Research Strategy. These long-term strategies and planning documents provide a framework for EPA's Goal 4 research program to improve the scientific basis for identification, assessment, and management of environmental exposures that pose the greatest health risks to the American public. In the context of performance (or program outcomes), the Government Performance and Results Act (GPRA) requires Federal organizations to establish and publish performance goals in an Annual Performance Plan and report on the extent to which they achieve those goals in Annual Performance Reports. The Safe Communities research program is also subject to the requirements of GPRA.

Human Health Research

Humans are exposed every day to thousands of chemicals individually and/or in multiple

combinations through the air, drinking water, food, and dust. In order to address these concerns, the Safe Communities Human Health Research Program will:

- Develop and verify tools to detect, characterize and quantify exposures to and the key factors influencing the exposures to pesticides and other toxic substances;
- Develop and verify methods to detect, characterize and quantify adverse human health effects that result from these exposures to pesticides and other toxic substances;
- Develop and validate models to predict the human health impacts of exposure to pesticides and other toxic substances; and
- Provide data on the human health and associated effects of selected pesticides and other toxic chemicals, occurring singly or as complex mixtures.

Human health research directly supports the needs of the Agency related to the requirements of TSCA, FIFRA and the Food Quality Protection Act (FQPA). In order to comply with the legislative mandates, research is needed to provide EPA with predictive tools for prioritization of testing requirements and enhanced interpretation of hazard identification and dose-response information. This includes evaluating existing test guidelines and developing new and improved test methods for incorporation into EPA's test guidelines series.

EPA will continue to participate in the Agriculture Health Study (AHS) with the National Cancer Institute (NCI), the National Institute for Environmental Health Sciences (NIEHS), and the National Institute of Occupational Safety and Health (NIOSH). The AHS is a large epidemiological study on the health of men and women in agriculture. The primary objective of the Study is to collect high quality exposure data to evaluate how accurately the AHS questionnaire classifies pesticide application activities and enables the prediction of applicator exposure and dose.

In FY 2004, research will focus on the analysis and reporting of the results from the AHS/Pesticide Exposure Study. Based on this analysis, EPA will deliver high quality exposure data to the National Cancer Institute (NCI) and the National Institute for Environmental Health Sciences (NIEHS) for the development of a tool for identifying and assessing key factors influencing farm applicator exposures to agricultural pesticides. Data collection and sample analyses will be completed in FY 2003 and an interim report will be prepared. Sophisticated statistical analyses of the data will be performed during FY 2004 and a final report and other publications will be developed.

In FY 2004, exposure research will investigate community risks associated with the use of pesticides in agricultural communities, to include secondary volatilization and regional transport of these pesticides. The AGDISP model (formerly known as AgDrift) will be linked to a smaller scale transport module embedded in a spatial (GIS) framework. Exposure methods research will be conducted to support prioritized regional and state needs for rapid screening techniques to assess the occurrence, magnitude and extent of exposures resulting from the use of agricultural pesticides.

In FY 2004, additional exposure research will be conducted to characterize potential exposures to pesticides and their by-products resulting from drinking water treatment processes. This research will be designed to elucidate the underlying processes that describe the fate and transport of selected pesticides, toxic chemicals, and their metabolites from natural water sources through drinking water treatment facilities to individual households.

Ecological Research

As with human exposures, the environment can have complex exposure scenarios. To develop a better understanding of possible exposure scenarios, the Safe Communities Ecological Research Program will:

- Develop and verify tools to detect, characterize and quantify potential exposures to and the key factors that may influence exposures to pesticides and other toxic substances;
- Develop and verify methods to detect, characterize and quantify adverse ecological effects that may result from exposures to pesticides and other toxic substances;
- Develop and validate models to predict the potential ecological impacts of exposure to pesticides and other toxic substances; and
- Provide data on the ecological exposures and associated effects of selected pesticides and other toxic chemicals that may occur singly or as complex mixtures.

Risk issues associated with ecological effects are addressed through applied research techniques that develop methods and models to evaluate the magnitude and duration of environmental exposures and their potential effects on wildlife and plant species. This research creates the scientific foundation for probabilistic risk assessment methods to protect wildlife and plant species by updating methods and models to identify, characterize, predict and assess ecological effects. Safe communities ecological effects and exposure research is highly leveraged with EPA's Ecosystems Protection Research Program under Sound Science (Goal 8).

Ecosystem effects research will address the development of appropriate screening and higher tier ecological effects models, the development of pharmacokinetic models to estimate/extrapolate tissue concentration of chemical agents from laboratory test organisms to wildlife species of concern, and the relative influence of potential exposure to chemicals and other environmental agents, habitat alterations and land use, and natural variability on sustainability of wildlife populations. Research will also develop and validate predictive models, including biologically-based dose response and structure-activity-relationships, to identify and characterize ecological hazard and risk. In FY 2004, EPA will complete a methodology to evaluate population-level effects of pesticides on wildlife and aquatic species.

The ecological exposure research program will investigate the feasibility and design of a coupled primary and secondary (revolatilization and wind erosion) pesticides drift model, AgDrift (discussed above). The research will:

- Apply larger scale risk assessment tools to pesticides and toxic substances issues;

- Refine existing aquatic exposure assessment models, including drinking water, which are used to assess the potential effects of pesticides and toxics on broader scales of ecosystems;
- Develop computerized and validated methods to assess uncertainties in ecological assessments for pesticides and toxic substances; and
- Develop user-friendly models linking distribution of exposure to distribution of toxicity to estimate magnitude and probability of effects to non-target species.

Additionally, exposure research will continue to develop and evaluate probabilistic exposure models for ecological risk assessment by extending existing model technologies to accommodate the full range of variant transport, fate and food chain contamination pathways present in agricultural landscapes and watersheds of North America. Research will also be conducted to assemble the range of datasets needed to execute risk assessments with appropriate geographic specificity in support of pesticide safety evaluations under FIFRA. The models will be linked with user interfaces and reporting capabilities for direct application to the EPA risk assessment paradigm in a statistical and probabilistic decision framework.

Innovative methods for assessing ecological exposures and risks to chiral pesticides – chemically identical organic compounds that have two or more mirror image structures – will be performed. Research will focus on developing enhanced methods for new chiral pesticides; examining the occurrence, degradation and selectivity of these pesticides in soils and agricultural products, selecting and testing enantiomers for biological effects, and assessing the uptake of these pesticides by selected species (e.g., earthworms, aquatic species).

Biotechnology Research

Biotechnology, which is applicable to both human health and ecological research, presents a wealth of opportunities such as genetically modified crops that improve productivity, provide resistance to pests and other stresses, and increase nutritional value. However, concerns about potential risk and our ability to manage these risks, driven primarily by a lack of information, have created considerable public concern.

In FY 2004, EPA will draw on its expertise in risk assessment to evaluate current methodology and, where necessary, develop new methods or new approaches to risk assessment of biotechnology products. Special areas of focus will be risk communication, monitoring, ecological assessment, and risk management to develop effective strategies to mitigate risks when unintended adverse consequences occur and to advance the application of socio-economic methods to better understand issues related to public acceptance of genetically modified products.

Specific activities include, but are not limited to: 1) developing novel methodologies and techniques for pest resistance management; 2) establishing a validated risk assessment strategy for evaluating genetically modified crops under consideration for commercialization; 3) developing an animal model to assess dietary allergenicity of transgenic pesticide proteins in

food crops; 4) developing methods to evaluate and model the potential for gene flow and transfer from engineered plant incorporated protectants to non-target species; and 5) developing standardized and streamlined methodologies for conducting base-line assessments of agricultural and near-field ecosystems non-target species diversity and abundance. The long-term goal of this research is to provide policy-relevant scientific information needed to assess and manage potential risks that genetically modified crops may cause.

In summary, research for safer communities supports EPA's mission through the continued development and validation of improved human health risk and ecological risk assessment methods and models. EPA's regulatory programs use the methods and models developed in these areas to obtain toxicity data and assess and manage risks of toxic agents under TSCA and FIFRA.

FY 2004 Change from FY 2003 Request

EPM

- (-\$407,000) This reduction reflects efficiencies achieved in Information Technology projects and systems.
- (+\$1,000,000, +1.0 FTE) This increase will enhance the development of acute exposure guideline levels for extremely hazardous substances to facilitate emergency response, planning and prevention. Funding will also support the development and use of safer alternative chemicals that cannot be used as weapons of mass terror.
- (+\$1,140,600, +4.9 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

S&T

Research

- (-\$370,000, -4.0 FTE) EPA is realigning and consolidating its Computational Toxicology Research Program under its Sound Science Goal (Objective 8.3). There are no programmatic impacts.
- There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: PREVENTING POLLUTION AND REDUCING RISK IN COMMUNITIES, HOMES, WORKPLACES AND ECOSYSTEMS

OBJECTIVE: MANAGE NEW CHEMICAL INTRODUCTION AND SCREEN EXISTING CHEMICALS FOR RISK

Annual Performance Goals and Measures

Risks from Industrial / Commercial Chemicals

- In 2004 Identify, restrict, and reduce risks associated with industrial/commercial chemicals
- In 2004 Identify, restrict, and reduce risks associated with industrial/commercial chemicals.
- In 2003 Of the approx. 1,800 applic. for new chem. and microorganisms submitted by industry, ensure those marketed are safe for humans and the envir. Increase proportion of commer. chem. that have undergone PMN review to signify they are properly managed and may be potential green altern. to exist. chem.
- In 2002 EPA reviewed all 1,943 Pre-manufacturing Notices received during FY 2002. At the end of 2002, 21.5 percent of all chemicals in commerce had been assessed for risks. A large fraction of these chemicals also may be "green" alternatives to existing chemicals in commerce.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of TSCA Pre-Manufacture Notice Reviews	1943	1800	1700	Notices
Make screening level health and environmental effects data publicly available for sponsored HPV chemicals	843		900	cum. chemicals
Number of Self-Audited New Chemical Product Alternatives			250	Alternatives
Reduction in the current year production-adjusted Risk Screening Environmental Indicators risk-based score of releases and transfers of toxic chemicals.			2%	Index
Reports of validation studies for four Tier 1 screening assays			4	scrn assays-cum
Number of chemicals for which sets of 15 AEGL values are made Final.			15	add'l chemicals

Baseline: The baseline for TSCA PMNs in FY2004 is zero. (EPA receives about 1,700 PMNs per year for chemicals about to enter commerce. From 1979-2002, EPA reviewed about 40,000 PMNs. Of the 78,000 chemicals potentially in commerce, 16,618 have gone through the risk-screening process.) The baseline for HPV measure is zero chemicals in 1998. The baseline for the RSEI measure is the index calculated for 2003. The baseline for the Tier 1 screening measure is zero in 1996 - no valid methods for endocrine disruptor screening and testing existed when FQPA was enacted in FY1996. The baseline for self-audited new chemical products is under development.

Baseline: The baseline for the AEGL measure under the base program is 29 cumulative chemicals through 2004.

Program Assessment Rating Tool (PART)

New Chemicals

As part of the Administration's overall evaluation of effectiveness of Government programs, the New Chemicals program was evaluated with the following specific findings:

- The program has very strong purpose and management.
- The program collaborates with the Department of Labor on worker protection controls and has a cooperative agreement with Florida State University to identify and develop improved environmental indicators and program performance measures.

- While the program has to some extent shown results, the main deficiency is the lack of adequate long-term measures. The measures are not outcomes, do not have clear targets and do not include at least one efficiency measure.
- The PART exercise, however, has resulted in serious attention by the program to develop long-term goals for the program that can demonstrate results for human health and/or the environment.

In response to these findings, the Administration will:

- Maintain funding at the 2003 President's Budget level.
- Recommend improvement of the program's strategic planning, including an independent evaluation of the program, which can result in significant improvement of program results.
- Establish more outcome-oriented measures including at least one efficiency measure.

Verification and Validation of Performance Measures

FY 2004 Performance Measures: Reports of validation studies for 13 Tier 1 endocrine disruptor screening assays

Performance Database: Program output; internal tracking system.

Data Source: Data collected by program office on number of screening assays validated.

Methods, Assumptions and Suitability: All screening assays are peer reviewed by the Scientific Advisory Panel (SAP) or the Agency Science Advisory Board (SAB). Study reports will be presented to the Endocrine Disruptor Methods Validation Subcommittee for review and comment.

QA/QC Procedures: All studies are being performed in accordance with EPA approved quality assurance project plans. All validation studies will be conducted using Good Laboratory Practices.

Data Quality Review: The SAP/SAB will be charged with identifying any data limitations during the peer review process.

Data Limitations: None identified

Error Estimate: N/A.

New/Improved Data or Systems: N/A.

References: Endocrine Disruptor Screening and Testing Advisory Committee (EDSTAC) Report, FY 2000 Report To Congress on the Endocrine Disruptor Screening Program.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Number of self-audited new chemical product alternatives under Sustainable Futures.

Performance Database: For this performance measure, EPA tracks the number of PMNs and supporting risk screening information submitted by industry to the Sustainable Futures voluntary program. EPA has developed computerized methodologies for evaluating hazard, exposure and risk based on an analysis of chemical structure. This approach, generally referred to as structure activity relationships, allows risk screening of chemicals early-on in R&D, when safer alternatives may be available and the cost of substitution is lowest. The P2 framework uses these same risk screening methodologies, called the P2 Framework, to evaluate PreManufacture Notices (PMNs) submitted under the Toxic Substances Control Act (TSCA). Under Sustainable Futures, EPA is making the P2 Framework available to industry, together with training and technical assistance. In addition, under Sustainable Futures, participating companies can receive regulatory flexibility for qualifying low hazard/low risk PMNs. This flexibility reduces the regulatory review period for new chemicals by 50 percent. For this performance measure, we track the number of PMNs and supporting risk screening information submitted by industry to the Sustainable Futures voluntary program.

Data Source: Industry conducts independently chemical risk screening and submits the data and results of risk screening analyses to EPA together with the PMN submission.

Methods, Assumptions, and Suitability: Industry submits the results of risk screenings with their PMNs, allowing EPA to track the level of participation in the Sustainable Futures program and the scope and applicability of the industry submissions. EPA will provide additional training and technical assistance to small businesses. EPA anticipates a relatively small number of companies participating in Sustainable Futures initially, with participation growing steadily over time. Industry response to both the concept of risk screening and the incentives offered, i.e., regulatory flexibility, has been very positive.

QA/QC Procedures: EPA will conduct a fully independent risk assessment of each PMN submitted under Sustainable Futures to ensure products commercialized do not present unreasonable risk.

Data Quality Reviews: EPA's own internal expert review will be employed to evaluate industry submissions under Sustainable Futures.

Data Limitations: EPA's experience indicates that estimates rendered by EPA's risk screening methodologies, included in the P2 Framework, are typically within the same order of magnitude as measured data. EPA's own internal expert review will be employed to evaluate industry submissions under Sustainable Futures. Because Sustainable Futures is a voluntary program, some chemical manufacturers may not submit their PMNs to the Sustainable Futures program.

Error Estimate: N/A.

New/Improved Data or Systems: EPA will evaluate the nature, quality and applicability of industry submissions under sustainable Futures. The Agency will continue to improve the scope and predictive capabilities of the P2 Framework risk screening methodologies. Data received through the High Production Volume Chemical Challenge program will be valuable in improving the P2 Framework risk screening capabilities by providing additional human and ecological health hazard data and data contributing to modeling of chemical environmental fate and transport.

References: None.

FY 2004 Performance Measure: TSCA Pre-manufacture Notice Reviews

Performance Database: New Chemicals Management Information Tracking System (MITS), which tracks information from beginning of Premanufacture Notice (PMN) program (1979) to present. Information includes number of PMNs submitted and final disposition (whether regulated or not) and number of low volume and test market exemptions.

Data Source: As industry develops new chemicals, it submits data related to the new chemicals for review to the Agency, including information on chemicals to be manufactured and imported, chemical identity, manufacturing process, use, worker exposure, environmental releases and disposal.

Methods, Assumptions, and Suitability: This is an output measure tracked directly through OPPT record-keeping systems. No models or assumptions or statistical methods are employed. Data are aggregated nationally and suitable for cross year comparisons.

QA/QC Procedures: Local Area Network (LAN) server contains confidential business information (CBI) support documents on each of the chemicals; data undergo quality assurance/quality control by EPA before being uploaded to the LAN. EPA always checks for consistency among similar chemicals in databases.

Data Quality Review: EPA reviews industry data; EPA staff scientists and contractors perform risk screenings and assessments, which could lead to regulation.

Data Limitations: None known.

Error Estimate: N/A.

New/Improved Data or Systems: None planned.

References: None.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Reduction in the FY 2004 production-adjusted Risk-Screening Environmental Indicators risk-based score of releases and transfers of toxic chemicals reported to TRI from the level calculated for FY 2003 (reported in FY 2006 due to TRI data lag).

Performance Database: The RSEI Model³⁶ uses annual reporting from individual industrial facilities along with a variety of other information to evaluate chemical emissions and other waste management activities. RSEI incorporates detailed data from EPA's Toxics Release Inventory (TRI) and Integrated Risk Information System (IRIS), the United States Census, and many other sources. Due to a TRI data lag, performance data will be unavailable for this measure when the FY 2004 Annual Performance Report is prepared. The data will be available for the FY 2006 report.

Data Source: The wide variety of data used in the RSEI model were collected by Federal Agencies (United States Census Bureau, EPA, USGS, Commerce Dept. - National Oceanographic and Atmospheric Administration (NOAA), Dept. of Interior - United States Fish and Wildlife Service), State Agencies (air emissions and stack data, fishing license data), and research organizations (such as the Electric Power Research Institute (EPRI)) for a variety of national/state programmatic and regulatory purposes, and for industry-specific measurements.

Methods, Assumptions, and Suitability: The RSEI Model generates unique numerical values known as "Indicator Elements" using the factors pertaining to surrogate dose, toxicity and exposed population. Indicator Elements are unit less (like an index number, they can be compared to one-another but do not reflect actual risk), but proportional to the modeled relative risk of each release (incrementally higher numbers reflect greater estimated risk). Indicator Elements are risk-related measures generated for every possible combination of reporting facility, chemical, release medium, and exposure pathway (inhalation or ingestion). Each Indicator Element represents a unique release-exposure event and together these form the building blocks to describe exposure scenarios of interest. These Indicator Elements are summed in various ways to produce "Indicator Values," which represent the risk-related results for releases users are interested in assessing. RSEI results are for comparative purposes and only meaningful when compared to other scores produced by RSEI. The measure is appropriate for year-to-year comparisons of performance. Depending on how the user wishes to aggregate, RSEI can address trends nationally, regionally, by state or smaller geographic areas.

QA/QC Procedures: The Agency annually updates the data sources used within the RSEI model to take advantage of the most recent and reliable data. For example, TRI facilities self-report release data and occasionally make errors. TRI has quality control (QC) functions and an error-correction mechanism for reporting such mistakes. Because of the unique screening-level abilities of the RSEI model, it is possible to identify other likely reporting errors and these are forwarded to the TRI Program for resolution. In developing the RSEI model, the Agency performed numerous QC checks on various types of data. For instance, locational data for on-site and off-site facilities has been checked and corrected, and this information is being supplied to the Office of Environmental Information (OEI) and EPA's Envirofacts database.

³⁶ U.S. EPA Office of Pollution Prevention and Toxics, *Risk Screening and Environmental Indicators Model*. Available at <http://www.epa.gov/opptintr/rsei/>

Data Quality Reviews: RSEI depends upon a broad array of data resources, each of which has gone through a quality review process tailored to the specific data. It includes data from TRI, Integrated Risk Information System (IRIS), Health Effects Assessment Summary Tables (HEAST), United States Census, etc. All were collected for regulatory or programmatic purposes and are of sufficient quality to be used by EPA, other Federal agencies, and state regulatory agencies. Over the course of its development, RSEI has been the subject of three reviews by EPA's Science Advisory Board.³⁷

Data Limitations: RSEI relies on data from a variety of EPA and other sources. TRI data may have errors that are not corrected in the standard TRI QC process. In the past, RSEI has identified some of these errors and corrections have been made by reporting facilities. Drinking water intake locations are not available for all intakes nationwide. Where intake locations are known only at the county-level, RSEI distributes the drinking water population between all stream reaches in that county. This could increase or decrease the RSEI risk-related results depending on the pattern of TRI releases on the stream reaches in that county. If the actual uptake location were on a highly polluted stream reach, this approach would underestimate risk by distributing the drinking water population to less-polluted reaches. In coastal areas, some releases may go directly to the ocean, rather than nearby streams. The Agency is in the process of systematically correcting potential errors regarding these releases. These examples are illustrative of the data quality checks and methodological improvements that are part of the RSEI development effort. Data sources are updated annually and all RSEI values are recalculated on an annual basis.

Error Estimate: In developing the RSEI methodology, both sensitivity analyses and groundtruthing studies have been used to address model accuracy (documentation is provided on the RSEI Home Page - www.epa.gov/oppt/env_ind/). For example, groundtruthing of the air modeling performed by RSEI compared to site-specific regulatory modeling done by the state of New York showed virtually identical results in both rank order and magnitude. However, the complexity of modeling performed in RSEI, coupled with un-quantified data limitations, limits a precise estimation of errors that may either over- or under-estimate risk-related results.

New/Improved Data or Systems: RSEI developers regularly track improvements in Agency databases (e.g., SDWIS and Reach File databases) and incorporate newer data into the RSEI databases. Such improvements can also lead to methodological modifications in the model. Corrections in TRI reporting data for all previous years are captured by the annual updates of the RSEI model.

References: The methodologies used in RSEI were documented for the 1997 review by the EPA Science Advisory Board. The Agency has also provided this and other technical documentation on the RSEI Home Page, and is revising the existing methodology documents concurrent with the second beta release of RSEI Version 2.0.

³⁷ U.S. EPA Office of Pollution Prevention and Toxics, *Risk Screening Environmental Indicators Model, Peer Reviews*. Available at <http://www.epa.gov/opptintr/rsei/faqs.html>

Bibliography:

RSEI Methodology Document (describes data and methods used in RSEI Modeling)

RSEI User's Manual (PDF, 1.5 MB) explains all of the functions of the model, the data used, and contains tutorials to walk the new user through common RSEI tasks. A more general overview of the model can be found in the RSEI Fact Sheet (PDF, 23 KB).

Technical Appendices:

Technical Appendix A (PDF, 85 KB) - Available Toxicity Data for TRI Chemicals

Technical Appendix B (PDF, 291 KB) - Physicochemical Properties for TRI Chemicals and Chemical Categories

Technical Appendix C (PDF, 125 KB) - Derivation of Model Exposure Parameters

Technical Appendix D (PDF, 183 KB) - Locational Data for TRI Reporting Facilities and Offsite Facilities

Technical Appendix E (PDF, 98 KB) - Derivation of Stack Parameter Data

Technical Appendix F (PDF, 109 KB) - Additional Information on Flag Fields

Technical Appendix G (PDF, 46 KB) - Summary of Differences Between RSEI Data TRI Public Release Data

Performance Measure: Make screening level health and environmental effects data publicly available for HPV chemicals.

Performance Database: EPA is developing an electronic chemical right-to-know database system, called the United States High Production Volume (US HPV) database, which will allow organized storage and retrieval of all available information on High Production Volume chemicals in commerce in the United States. The US HPV database will be designed to store in a systematic fashion, physical chemistry, fate, exposure, and toxicity data on listed chemicals for Agency and public use. The United States HPV database will be operational in late 2003.

Data Source: Industry submits test plans and robust summaries of risk screening data in response to the voluntary HPV Challenge program or EPA promulgated test rules.

Methods, Assumptions, and Suitability: This is an output measure tracked directly through OPPT record-keeping systems. No models or assumptions or statistical methods are employed. Data are aggregated nationally and suitable for cross year comparisons.

QA/QC Procedures: Data undergo quality assurance/quality control by EPA before being uploaded to the database. EPA reviews industry submissions of robust summaries of hazard data on individual chemicals and chemical categories, and test plans based on those summaries. EPA

determines whether industry data addressing the chemical parameters adequately support the summaries and test plans. Data review does not include new information received as a result of new testing.

Data Quality Review: Review of industry data.

Data Limitations: Data are primarily hazard data, not exposure data. Data are suitable to support screening level assessments only.

Error Estimate: N/A.

New/Improved Data or Systems: Data will be integrated with other Toxic Substances Control Act (TSCA) databases into an Oracle environment.

References: United States EPA Office of Pollution Prevention and Toxics, High Production Challenge Program, US HPV database to be available in 2003 at <http://www.epa.gov/chemrtk/hpvchmlt.htm>

Coordination with Other Agencies

EPA's chemical testing data provides information for the occupational Safety and Health Administration's (OSHA) worker protection programs, the National Institute for Occupational Safety and Health (NIOSH) for research, and the Consumer Product Safety Commission (CPSC) for informing consumers about products through labels. EPA frequently consults with these agencies on project design, progress and the results of chemical testing projects. The National Institute of Occupational Safety and Health (NIOSH), the Mine Safety and Health Association (MSHA) and EPA meet monthly to coordinate on issues such as mercury recycling, a proposed rule on worker protection for acrylamide, and issues relating to vermiculite/asbestos at a Superfund site in Montana. The Agency of Toxic Substances and Disease Registry (ATSDR) has asked EPA to develop TSCA Section 4 testing actions for certain chemicals that are found frequently at Superfund sites.

The AEGL is a collaborative effort that includes nine Federal agencies (EPA, DOE, DOD, DOT, NIOSH, OSHA, CDC, ATSDR, and FDA), numerous state agencies, private industry, academia, emergency medical associations, unions, and other organizations in the private sector. The program also has been supported internationally by the OECD and includes active participation by the Netherlands, Germany and France.

Research

EPA is among six agencies within the Federal government that conducts intramural human and environmental health research (EPA, NIEHS, National Cancer Institute, Centers for Disease Control and Prevention - CDC, Food and Drug Administration, and Agency for Toxic Substances and Disease Registry). The Agency conducts research in all elements of the human health risk assessment paradigm (i.e., exposure, effects, risk assessment, and risk management), making EPA's contribution unique within the Federal government. EPA is widely recognized both nationally and internationally for its work in identifying the relationship between human

health effects and exposure to environmental pollutants. Basic research on the mechanisms underlying these effects in combination with problem-driven research programs contribute significantly to the Agency's ability to fulfill its goals and objectives under several environmental mandates.

The CDC, through the National Center for Environmental Health (NCEH), studies health problems associated with human exposure to lead, radiation, air pollution, and other toxics, as well as to hazards resulting from technologic or natural disasters. These are mainly surveillance and epidemiology studies and NCEH is particularly interested in studies that benefit children, the elderly, and persons with disabilities. The NCEH laboratory supports many of EPA's studies and is the analytical laboratory for samples collected in the EPA-sponsored pesticide study in the National Health and Nutrition Examination Survey (NHANES-4) being conducted by the National Center for Health Statistics (NCHS) of CDC. NHANES-4 is a survey of the national population and includes data on potentially sensitive sub-populations such as children and the elderly. EPA is participating in this survey with NCHS to collect information on children's exposure to pesticides and other environmental contaminants.

The National Institute of Child Health and Human Development (NICHD) supports laboratory, clinical, and epidemiological research on the reproductive, neurobiological, developmental, and behavioral processes that determine (and maintain) the health of children and adults. EPA is collaborating with NICHD, CDC, and other Federal agencies in the design and implementation of a National Children's Study of 100,000 children, who will be enrolled during the mother's pregnancy and followed throughout childhood and adolescence. This study was mandated in the Children's Health Act of 2000 to study environmental influences on children's health and development.

Statutory Authorities

Toxic Substances Control Act (TSCA) section 4, 5, 6, 8, 12(b) and 13 (15 U.S.C. 2603-5, 2607, 2611 and 2612)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) sections 3, 4, 5, 6, 11, 18, 24, and 25 (7 U.S.C. 136a, 136a-1, 136c, 136d, 136i, 136p, 136v, and 136w)

Federal Food, Drug, and Cosmetic Act (FFDCA)

Research

Toxic Substances Control Act (TSCA)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

Federal Food, Drug, and Cosmetic Act (FFDCA)

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems

Objective: Ensure Healthier Indoor Air.

By 2005, 16 million more Americans than in 1994 will live or work in homes, schools, or office buildings with healthier indoor air.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Ensure Healthier Indoor Air.	\$40,290.3	\$40,322.7	\$42,380.4	\$2,057.7
Environmental Program & Management	\$29,514.7	\$30,455.1	\$32,995.5	\$2,540.4
Science & Technology	\$2,187.8	\$1,727.7	\$1,234.9	(\$492.8)
State and Tribal Assistance Grants	\$8,587.8	\$8,139.9	\$8,150.0	\$10.1
Total Workyears	123.6	132.2	126.1	-6.1

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Air, State, Local and Tribal Assistance Grants: Other Air Grants	\$8,139.9	\$8,139.9	\$8,150.0	\$10.1
Children's Indoor Environments	\$13,287.9	\$13,918.4	\$16,714.5	\$2,796.1
Facilities Infrastructure and Operations	\$1,799.7	\$1,846.2	\$1,866.2	\$20.0
Indoor Environments	\$9,366.2	\$9,307.6	\$8,859.3	(\$448.3)
Legal Services	\$92.8	\$103.5	\$107.2	\$3.7
Management Services and	\$526.6	\$513.2	\$495.2	(\$18.0)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Stewardship				
Radon	\$6,453.0	\$6,493.9	\$6,188.0	(\$305.9)
Regional Management	\$4.0	\$0.0	\$0.0	\$0.0

FY 2004 Request

Health Effects of Indoor Air Pollution

Research conducted by the Environmental Protection Agency (EPA) and others, beginning in the late 1970's, indicates that Americans spend about 90 percent of their time indoors, where they are exposed to levels of pollutants that are often higher than those outdoors. As a result, indoor air pollution can pose high risks to human health, especially to sensitive populations, and has been ranked among the top four environmental risks in relative risk reports issued by EPA, the Science Advisory Board, and several states, such as Florida and California. Estimates of the economic costs to the nation of poor indoor air quality, including lost worker productivity, direct medical costs for those whose health is adversely affected, and damage to equipment and materials, are on the order of tens of billions of dollars per year. (Report to Congress on Indoor Air Quality, EPA/400/1-89-001). In 2000, the National Academy of Sciences (NAS) affirmed the significance of indoor triggers of asthma and the alarming increase in asthma rates nationwide (*Clearing the Air: Asthma and Indoor Air Exposures*, (ISBN 0-309-06496-1, January 2000).

Indoor air pollutants continue to have significant impacts in our homes, schools, and workplaces:

- Nearly one in 13 school-aged children has asthma. There is substantial evidence that indoor exposures to dust mites and environmental tobacco smoke (ETS, also known as second-hand smoke), pests, molds, and pets play a significant role in triggering asthma episodes, and, in some instances, are causally linked to the development of the disease. (Institute of Medicine, National Academy of Sciences (U.S.)). Committee on the Assessment of Asthma and Indoor Air. *Clearing the Air: Asthma and Indoor Air Exposures*. 2000. Washington. National Academy Press.)
- Asthma's estimated annual cost to the Nation is \$14.0 billion (National Heart, Lung, and Blood Institute, (NHLBI) 2002).
- Young children are exposed to ETS in approximately 29 percent of United States homes, increasing their risk for asthma and causing thousands of lung infections and other diseases. (Results of a national telephone survey entitled "Radon Risk Communication and Results Study," commissioned by EPA in 1994 and 1996. EPA expects updated results in mid-2003.)

- In 1999, indoor air quality was reported to be unsatisfactory in about one in five schools in the United States, while ventilation was reported as unsatisfactory in about one-quarter of public schools. This translates to over 11 million students attending public schools reporting unsatisfactory indoor air quality and about 14 million students attending public schools reporting unsatisfactory ventilation. (*Condition of America's Public School Facilities: 1999*, National Center for Education Statistics, Office of Educational Research and Improvement, United States Department of Education, NCES2000-032, June 2000.)
- Radon is the second leading cause of lung cancer and is estimated to be responsible for 15,000 to 22,000 deaths per year (BEIR VI, NAS, February 1998). In 1992, EPA estimated that nearly one out of every 15 homes had radon concentrations above the EPA recommended action level. (*National Residential Radon Survey, 1992*)

Indoor Environments Program Strategy

EPA has two major strategies to meet its human health objective for indoor air quality:

- **Increase Public Awareness:** EPA raises public awareness of actual and potential indoor air risks so that individuals can take steps to reduce exposure. Outreach activities, in the form of educational literature, media campaigns, hotlines, and clearinghouse operations, provide essential information about indoor air health risks not only to the public, but to the professional and research communities as well. Underpinning EPA's outreach efforts is a strong commitment to environmental justice, community-based risk reduction, and customer service. For example, the award-winning media campaign undertaken in partnership with the Advertising Council seeks to educate people about asthma and the role that indoor environmental triggers can play in the worsening of the disease.
- **Increase Partnerships:** Through partnerships with non-governmental and professional entities, EPA disseminates multi-media materials encouraging individuals, schools, and industry to take action to reduce health risks in their indoor environments. In addition, EPA uses technology transfer to improve the ways in which all types of buildings, including schools, homes, and workplaces, are designed, operated, and maintained. To support these voluntary approaches, EPA incorporates the most current science available as the basis for recommending ways that people can reduce exposure to indoor contaminants.

To reach people at the local level, EPA uses assistance agreements and cooperative partnerships to collaborate with organizations such as the American Academy of Pediatrics, the Asthma and Allergy Foundation of America, the National Association of Counties, the National Education Association, the American Lung Association, the Consumer Federation of America, the National Environmental Health Association, and the National Council of La Raza. These partnerships allow EPA to successfully reach and educate target audiences with messages about how to reduce public health risks posed by indoor air contaminants. Targeted audiences include: health care providers who treat children with asthma, school personnel who manage the environments where children spend many hours each day, county and local environmental health officials, and disproportionately affected and disadvantaged populations. Through this national partner

network of over 30 organizations and more than 1,000 local field affiliates, EPA leverages the personnel, expertise, and credibility of these groups to provide the tools to their target audiences and to the general public, to make informed decisions about reducing health risks in their indoor environment.

EPA will broaden awareness and action through national organizations focused on addressing indoor asthma triggers, as well as other indoor health risks and partner with other local community-based organizations for implementation. These agreements will provide maximum flexibility for states and communities to design programs that address critical indoor air quality problems, including radon, asthma, mold contamination, and secondhand smoke in homes, in child care and school facilities, and in other residential environments. Some of the residential environments, such as multi-family, low-income housing, may involve complex issues such as who controls the condition of the indoor environment and whether resources are available to make needed repairs or improvements. Schools may have a range of indoor environmental problems that can be addressed through community-based efforts.

Indoor Environments: Children's Health Emphasis

Asthma

EPA and CDC co-chair the Asthma Workgroup of the President's Task Force on Environmental Health Risks and Safety Risks to Children. In response to the recommendation of this Task Force in FY 2000, the Administration proposed a multi-agency initiative to substantially increase the Federal government's efforts to combat asthma in children. The initiative was based on *Asthma and the Environment: A Strategy to Protect Children*, which currently serves as the framework for DHHS, EPA and other Federal collaboration on asthma issues. In addition to the Task Force recommendations in 2000 to increase research, surveillance, and efforts to reduce the disproportionate impact of asthma on minorities and those living in poverty, a strong recommendation was made to expand existing public health programs through the incorporation of environmental management of asthma triggers into comprehensive asthma management programs. Indoor exposure to allergens and pollutants is known to play a significant role in the exacerbation of asthma in children. Subsequently, EPA launched a national, multi-faceted asthma education and outreach program, which stresses the importance of incorporating environmental management into asthma education, outreach and management strategies. EPA implements comprehensive asthma management programs through partnerships with national organizations. EPA is also working closely with Federal agencies and non-governmental organizations through the National Asthma Education and Prevention Program (NAEPP).

Childhood asthma has been characterized by the Centers for Disease Control (CDC) as an epidemic. The number of children with asthma has more than doubled since 1980. During the period 1996 - 1998, an estimated five million children had asthma (National Center for Health Statistics, CDC). In 1996, 210,000 hospitalizations for asthma were for children under the age of 18 (National Center for Environmental Health, CDC). From 1977 to 1995, there was a three-fold increase in the number of deaths from asthma, and each year over 14 million school days are missed due to this disease (*Morbidity and Mortality Weekly Report, Surveillance Summaries, Surveillance for Asthma 1980-1999*: CDC. March 29, 2002). While there is no known cure for

asthma at this time, the medical community agrees, and it is established in national guidelines, that both medical treatment and environmental management are needed to effectively control asthma. However, indoor environmental management is often not practiced and often not part of the prescription for managing asthma. In FY 2004, EPA will focus its indoor environments program on implementing successful techniques to expand awareness of asthma triggers. EPA is targeting three primary audiences to help address indoor asthma triggers nationwide: the general public, school and child care communities, and the health care providers.

In FY 2004, EPA will build on the success of its national "Indoor Air Quality (IAQ) Tools for Schools" (TfS) program and expand implementation of this program to more schools. Adoption of EPA's low-cost/no-cost guidelines for proper operation and maintenance of school facilities results in healthier indoor environments for all students and staff, but is of particular help to children with asthma, lessening the degree to which they are exposed to indoor asthma triggers. By increasing the number of schools where TfS indoor air quality guidelines are adopted and implemented, healthier indoor air will be provided for over a million students, staff, and faculty. The Agency will continue to promote the adoption of healthy building practices in existing school operations. In FY 2003, EPA will release new web-based guidance to assist school districts in integrating indoor environmental quality and high performance goals into the design, construction, and renovation of school buildings. In FY 2004, these two products will increase the number of existing and new schools that protect students and staff from the health risks posed by poor school environments.

Preliminary results, based on feedback from stakeholders, have shown that schools and school districts across the nation are reaping the benefits of improved indoor air quality by successfully implementing the IAQ TfS Kit and Program. To increase awareness of the TfS Program and the newer Design Tools for Schools guidance, the Agency will continue to partner with various non-governmental organizations to promote widespread adoption, including sponsoring an annual schools symposium, bringing together school officials, nurses, teachers, facility managers and planners, parents, and others to discuss current issues and the potential negative effect poor indoor air quality can have on our children's health. In FY 2002, the IAQ Schools Symposium attracted some 500 participants more than 100 more school officials and personnel than had participated in FY 2001. The size of the Symposium has grown dramatically since its inception in FY 2000, indicating growing interest on the part of schools and school districts nationwide.

EPA will continue to refine its schools materials as new information becomes available, and as we analyze information we solicit from schools in the form of case studies about how implementation proceeded and what costs and benefits were realized. Likewise, we will be actively seeking feedback from users of the newer design guidance to continuously refine the information we offer to the target community. Results of a national survey of school operation and maintenance practices administered in late FY 2002, which are expected in FY 2003 will also help us understand what more needs to be done to meet the needs of schools throughout the country that are struggling to overcome indoor environment problems in the face of constrained resources for school operation and maintenance. EPA remains particularly concerned about those schools in inner city areas that are experiencing significant facility deterioration but are unable to garner the funds needed for repair or replacement. These schools represent a distinct challenge for TfS adoption.

In FY 2004, EPA will expand its efforts to address children's asthma health concerns in schools by funding implementation of comprehensive environmental and asthma management systems that utilize Tools for Schools as the framework for addressing all potential asthma related children's health risks in school environments. Though indoor air is the primary exposure route for asthma triggers, exposure to diesel exhaust is also linked to asthma, and exposure to a wide range of chemical respiratory irritants commonly found in and around schools (e.g., science labs, art supplies, cleaning agents, and pesticides) may also be associated with exacerbation of asthma. Tools for Schools is a proven environmental management system for schools that stresses teamwork, comprehensive "whole building" strategies, and multi-media approaches. As schools struggle to finance critical education priorities while ensuring a safe and healthy learning environment for children, it is critical that the Federal government better integrate its existing environmental management programs for schools. This integration allows schools to efficiently manage their limited resources so they can target the most pressing environmental health issues, such as asthma. EPA will fund 5-10 additional national, regional, or community based results-oriented programs that utilize a multi-media approach to addressing all potential asthma triggers, through effective and innovative integration of existing proven programs such as Tools for Schools and Open Airways for Schools as well as programs addressing other environmental triggers of asthma.

EPA also will expand the number of schools in which school-based asthma education programs, such as the American Lung Association's (ALA) "*Open Airways*" and the National Association of School Nurses' (NASN) "*Managing Asthma Triggers: Keeping Students Healthy*," are offered. We will continue to place emphasis on reaching inner city schools with disproportionately affected populations. These programs teach students with asthma to identify and control their exposure to asthma triggers in their environment and help staff and teachers understand the steps they can take to improve their school's asthma management.

The Agency will be assessing the effectiveness of in-home asthma education and mitigation interventions during FY 2003 to determine strategic directions for FY 2004 and beyond. Successful interventions continue to be demonstrated by a number of community-based pilot programs (e.g., National Cooperative Inner City Asthma Study, Bureau of Primary Health Care Asthma Collaborative, and Centers of Excellence in Children's Environmental Health Research). Those interventions determined to be most effective will be replicated in an attempt to reach increasingly larger audiences with programs tailored to their particular needs, teaching practical skills as well as motivating behavioral change. For example, in FY 2001, the year for which data is the most complete and accurate, the Agency partnered with the Asthma and Allergy Foundation of America to educate 2,233 child-care providers on how to provide a safe and healthy environment for children with asthma and allergies. Combined, these child-care providers administered care for over 19,000 children in FY 2001. Pre- and post-tests indicate a marked improvement in participant knowledge of asthma. As a result of the training, 86% of the participants indicated they would make changes in the child-care setting to reduce exposures to indoor asthma triggers, with most planning multiple interventions. Child care providers reported higher implementation rates at follow-up than predicted as course completion for: increased cleaning and dusting, more frequent vacuuming, pest control measures, smoking prohibitions, mold elimination, use of pillow and mattress covers and carpet removal. This project does not track the health of children with asthma in daycare. It focuses on increasing the awareness and

action of child care provide to reduce known environmental asthma triggers in the child care setting which can benefit all children and staff in the center, especially those with asthma.

Additional Asthma Programs

EPA will build on its national public awareness campaign to improve the public's understanding of indoor asthma triggers and the steps they should take to reduce their exposure as part of a comprehensive asthma management plan. We will continue to focus attention on children with asthma, their caregivers, on low-income adults with asthma, and on disproportionately impacted members of the public who are more vulnerable to poor indoor conditions. In FY 2003, EPA will explore the extent to which the elderly may be at greater risk from poor indoor environments than is the population as a whole. Should evidence suggest that the health risk is greater in this segment of the population, EPA will work collaboratively in FY 2004 with organizations that advocate for the protection of the elderly to focus outreach and education efforts on reducing exposure to possible indoor environmental contaminants.

EPA expects, as a result of Agency programs, that 834,400 Americans will be living in healthier residential indoor environments in FY 2004. Part of meeting this goal includes expanding the Agency's successful education and outreach efforts to the public about sound indoor environmental management techniques with respect to asthma. In addition, the Agency will continue to focus on ways to assist the health-care community to raise its awareness of, and attention it pays to, indoor asthma triggers and their role in provoking asthma attacks in those with the disease. EPA, in conjunction with the Department of Health and Human Services (HHS), will continue to seek opportunities to interact with managed care organizations and health insurers to promote effective asthma care practices and to encourage greater emphasis on avoidance of asthma triggers, as part of a comprehensive asthma treatment regimen.

Environmental Tobacco Smoke

As of 1996, young children were being exposed to ETS in 27% of United States homes. ETS exposure increases the risk of lower respiratory tract infections such as bronchitis and pneumonia. EPA estimates that between 150,000 and 300,000 of these cases in infants and children up to 18 months of age are attributable to exposure to ETS (EPA 1992). ETS exposure is causally associated with increased risk of acute and chronic middle ear disease (WHO, 1999). Asthmatic children are especially at risk, as ETS exposure increases the number of episodes and severity of symptoms for up to a million asthmatic children (*Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders*, United States EPA, 1993 and National Cancer Institute, *Health Effects of Exposure to Environmental Tobacco Smoke, Monograph No. 10*). Recent studies also have suggested links between ETS exposure, sudden infant death syndrome, and low birth weight (National Cancer Institute, *Health Effects of Exposure to Environmental Tobacco Smoke, Monograph No. 10*).

To address this health risk, the Agency is pursuing a multi-media campaign on ETS, focusing on expanding participation in the "Smoke Free Homes Pledge" program, which targets the parents of young children advising them not to expose children to smoke inside the home. EPA will be providing technical support directly to state and local government and public health organizations to develop and make available tools and resources which motivate parents and

guardians to make their homes smoke-free. The extent to which adult smoking in homes with young children has changed in recent years will be better understood in late 2003, when results of a national survey including this information will be available.

Indoor Environments: Homes, Schools, and Buildings Programs

EPA continues to work toward bottom line outcome-oriented results for the Indoor Environments base programs. This includes the number of office buildings managed with good Building Air Quality practices, home radon tests completed, home radon mitigation accomplished, and new homes built with radon-resistant features. EPA provides assistance to the public, to states, tribes, and other governmental agencies, and to non-governmental organizations to help meet the program's objective to reduce indoor environmental pollutants.

Through the State Indoor Radon Grant Program, EPA provides assistance to the states for the development and implementation of programs to assess and mitigate radon, thereby enhancing the effectiveness of state and local activities for radon risk management. The state grant program helps:

- establish the basic elements of an effective Radon Program in states that have not yet done so;
- support innovation and expansion in states that currently have programs in place; and
- strengthen the Federal/state partnership by helping states develop radon program elements and activities.

FY 2004 Change from FY 2003 Request

EPM

- (+\$2,000,000) EPA will expand the number of Tools for Schools partnerships that emphasize comprehensive, results-oriented environmental and asthma management systems for schools. EPA will also expand the number of schools in which school-based asthma management education programs are offered.

GOAL: PREVENTING POLLUTION AND REDUCING RISK IN COMMUNITIES, HOMES, WORKPLACES AND ECOSYSTEMS

OBJECTIVE: ENSURE HEALTHIER INDOOR AIR.

Annual Performance Goals and Measures

Healthier Residential Indoor Air

In 2004	834,400 additional people will be living in healthier residential indoor environments.
In 2003	834,400 additional people will be living in healthier residential indoor environments.
In 2002	On track to ensure that 834,400 additional people will be living in healthier residential indoor environments.

Performance Measures:	FY 2002	FY 2003	FY 2004	
	Actuals	Pres. Bud.	Request	
People Living in Healthier Indoor Air	Data Lag	834,400	834,400	People

Baseline: 1. By 2004, increase the number of people living in homes built with radon resistant features to 3,950,000 from 600,000 in 1994. (cumulative) 2. By 2004, decrease the number of children exposed to ETS from 19,500,000 in 1994 to 16,556,000. (cumulative) 3. By 2004, increase the number of people living in radon-mitigated homes to 1,689,700 from 780,000 from 1994. (cumulative) 4. By 2004, increase by 180,600 the number of people with asthma and their caregivers who are educated about indoor air asthma triggers.

Healthier Indoor Air in Schools

In 2004 1,575,000 students, faculty and staff will experience improved indoor air quality in their schools.
 In 2003 1,050,000 students, faculty and staff will experience improved indoor air quality in their schools.
 In 2002 On track to ensure that 1,228,500 students, faculty and staff will experience improved indoor air quality in their schools.

Performance Measures:	FY 2002	FY 2003	FY 2004	
	Actuals	Pres. Bud.	Request	
Students/Staff Experiencing Improved IAQ in Schools	Data Lag	1,050,000	1,575,000	Students/Staff

Baseline: The nation has approximately 110,000 schools with an average of 525 students, faculty and staff occupying them for a total baseline population of 58,000,000. The IAQ "Tools for Schools" Guidance implementation began in 1997. For FY 2004, the program projects an additional 3,000 schools will implement the guidance and seeks to obtain implementation commitments from 10 of the 50 largest school districts in the United States with an average of 140,000 per district. (Additional, not cumulative since there is not an established baseline for good IAQ practices in schools.)

Verification and Validation of Performance Measures

FY 2004 Overarching Performance Measure: People Living in Healthier Indoor Air

FY 2004 Supporting Performance Measure: People Living in Radon Resistant Homes

Performance Database: Survey

Data Source: The survey is an annual sample of home builders in the United States most of whom are members of the National Association of Home Builders (NAHB). NAHB members construct 80% of the homes built in the United States each year. Using a survey methodology reviewed by EPA, NAHB Research Center estimates the percentage of these homes that are built radon resistant. The percentage built radon resistant from the sample is then used to estimate what percent of all homes built nationwide are radon resistant. To calculate the number of people living in radon resistant homes, EPA assumes an average of 2.67 people per household. NAHB Research Center has been conducting this annual builder practices survey for nearly a decade, and has developed substantial expertise in the survey's design, implementation, and analysis. The statistical estimates are typically reported with a 95 percent confidence interval.

Methods, Assumptions, and Suitability: NAHB Research Center conducts an annual survey of home builders in the United States to assess a wide range of builder practices. NAHB Research Center voluntarily conducts this survey to maintain an awareness of industry trends in order to improve American housing and to be responsive to the needs of the home building industry. The annual survey gathers information such as types of houses built, lot sizes, foundation designs, types of lumber used, types of doors and windows used, etc. The NAHB Research Center Builder Survey also gathers information on the use of radon-resistant design features in new houses, and these questions comprise about two percent of the survey questionnaire.

In January of each year, the survey of building practices for the preceding calendar year is typically mailed out to home builders. For the most-recently completed survey, for building practices during calendar year 2000, NAHB Research Center reported mailing the survey to about 39,000 active United States home building companies, and received about 2,200 responses which translates to a response rate of about 5.6 percent. This is the response rate for the entire survey. The survey responses are analyzed with respect to State market areas and Census Divisions in the United States, and are analyzed to assess the percentage and number of homes built each year that incorporate radon-reducing features. The data are also used to assess the percentage and number of homes built with radon-reducing features in high radon potential areas in the United States (high risk areas). Other analyses include radon-reducing features as a function of housing type, foundation type, and different techniques for radon-resistant new home construction. The data are suitable for year-to-year comparisons.

QA/QC Procedures: Because data are obtained from an external organization, QA/QC procedures are not entirely known. According to NAHB Research Center, QA/QC procedures have been established, which includes QA/QC by the vendor that is utilized for key entry of data.

Data Quality Review: Because data are obtained from an external organization, Data Quality Review procedures are not entirely known. NAHB Research Center indicates that each survey is manually reviewed, a process that requires several months to complete. The review includes data quality checks to ensure that the respondents understood the survey questions and answered the questions appropriately. NAHB Research Center also applies checks for open-ended questions to verify the appropriateness of the answers. In some cases where open-ended questions request numerical information, the data is capped between the upper and lower three percent of the values provided in the survey responses. Also, a quality review of each year's draft report from NAHB Research Center is conducted by the EPA project officer.

Data Limitations: The majority of home builders surveyed are NAHB members. The NAHB Research Center survey also attempts to capture the activities of builders that are not members of NAHB. Home builders that are not members of NAHB are typically smaller, sporadic builders that in some cases build homes as a secondary profession. To augment the list of NAHB members in the survey sample, NAHB Research Center sends the survey to home builders identified from mailing lists of builder trade publications, such as Professional Builder magazine. There is some uncertainty as to whether the survey adequately characterizes the practices of builders who are not members of NAHB. The effects on the findings are not known.

Although an overall response rate of 5.6 percent could be considered low, it is the response rate for the entire survey, of which the radon-resistant new construction questions are only a very small portion. Builders responding to the survey would not be doing so principally due to their radon activities. Thus, a low response rate does not necessarily indicate a strong potential for a positive bias under the speculation that builders using radon-resistant construction would be more likely to respond to the survey. NAHB Research Center also makes efforts to reduce the potential for positive bias in the way the radon-related survey questions are presented.

Error Estimate: See Data Limitations

New/Improved Data or Systems: None

References: The results are published by the NAHB Research Center in annual reports of radon-resistant home building practices; see <http://www.nahbrc.org/>. The most recent report, ABuilder Practices Report: Radon Reducing Features in New Construction 2000, Annual Builder and Consumer Practices Surveys by the NAHB Research Center, Inc., January 24, 2002. Similar report titles exist for prior years.

FY 2004 Supporting Performance Measure: People Living in Radon Mitigated Homes

Performance Database: External

Data Source: Radon fan manufacturers report fan sales to the Agency. EPA assumes one fan per radon mitigated home and then multiplies it by the assumed average of 2.67 people per household.

Methods, Assumptions and Suitability: N/A.

QA/QC Procedures: Because data are obtained from an external organization, EPA relies on the business practices for reporting data of the radon fan manufacturers.

Data Quality Review: Data are obtained from an external organization. EPA reviews the data to ascertain their reliability and discusses any irregularities with relevant manufacturer.

Data Limitations: Reporting by radon fan manufacturers is voluntary and may underestimate the number of radon fans sold. Nevertheless, these are the best available data to determine the number of homes mitigated. There are other methods to mitigate radon including: passive mitigation techniques of sealing holes and cracks in floors and foundation walls, installing sealed covers over sump pits, installing one-way drain valves in untrapped drains, and installing static venting and ground covers in areas like crawl spaces. Because there are no data on the occurrence of these methods, there is again the possibility that the number of radon mitigated homes has been underestimated.

When EPA produces an updated version of its Radon Results (1985-1999) report, it will use more/most recent census data, as appropriate.

No radon vent fan manufacturer, vent fan motor maker or distributor is required to report to EPA; they provide data/information voluntarily to EPA. There are only four (4) radon vent fan manufacturers of any significance; one of these accounts for an estimated 70% of the market.

Error Estimate: N/A.

New/Improved Data or Systems: None

References: See <http://www.epa.gov/iaq/radon/pubs/index.html> for National performance/progress reporting (National Radon Results: 1985-1999) on radon, measurement, mitigation and radon-resistant new construction.

FY 2004 Supporting Performance Measure: Number of people with asthma who have taken steps to reduce their exposure to indoor environmental asthma triggers.

Performance Database: National telephone survey (National Survey on Environmental Management of Asthma) of a representative sample of 87,652 households, expected to produce 7,889 eligible individuals (based on the number households predicted to have occupants with asthma).

Data Source: EPA is the data source. The survey, which has received Office of Management and Budget clearance, seeks information about the measures taken by people with asthma (and parents of children with asthma) to minimize exposure to indoor environmental asthma triggers. All of the questions asked are linked to the survey's objective of determining the extent to which indoor environmental management measures are used by these individuals.

Methods, Assumptions and Suitability: EPA has designed a questionnaire in which the respondents are asked to provide primarily yes/no responses. In some cases, respondents are given a range of responses in the form of multiple choice questions and are asked to indicate the one which best defines their response. The survey seeks information on those environmental management measures that the Agency considers important in reducing an individual's exposure to known indoor environmental asthma triggers. By using yes/no and multiple choice questions, the Agency has substantially reduced the amount of time necessary for the respondent to complete the survey and has ensured consistency in data response and interpretation.

The survey instrument was developed in consultation with staff from EPA's Indoor Environments Division (IED), EPA's Regional offices, and the National Center for Health Statistics (NCHS) to ensure that respondents will understand the questions asked and will provide the type of data necessary to measure the Agency's objectives.

EPA estimates that of the 87,652 households which make up the sampling frame, 60 percent, or 52,591, will be contacted successfully and will agree to participate in the screening survey. Of these 52,591 individuals, EPA expects that 15 percent, or 7,889 individuals, will either have asthma or live with someone who does. Only those individuals who have asthma or live with someone who does are considered to be eligible respondents.

QA/QC Procedures: Survey is designed in accordance with approved Agency procedures. Additional information is available on the Internet: <http://www.epa.gov/ict/players.html>

Data Quality Review: EPA reviews the data to ascertain their reliability and resolves any discrepancies.

Data Limitations: Random digit dialing methodology is used to ensure that a representative sample of households has been contacted; however, the survey is subject to inherent limitations of voluntary telephone surveys of representative samples. Limitations of phone surveys include: 1) inconsistency of interviewers following survey directions. For example, an interviewer might: ask the questions incorrectly or inadvertently lead the interviewee to a response; or 2) call at an inconvenient time. For example, the respondent might not want to be interrupted at the time of the call and may resent the intrusion of the phone call. The answers will reflect this attitude.

This survey will be used to gain information regarding the number of individuals with asthma that have taken steps to improve the quality of their indoor environment as part of their approach to managing the disease, as well as any barriers they may have encountered while attempting to do so.

Error Estimate: For each sample subset, the Agency expects to achieve results within three percentage points of the true value at the 90 percent confidence level. EPA feels that these precision rates will be more than adequate to characterize the extent to which the results measured by the survey are true characteristics of our nation's asthmatic population.

New/Improved Data or Systems: None

References: There is no website specifically relating to the survey. Inquiries may be made directly to the EPA Office of Indoor Environments. However, asthma information can be obtained at <http://www.epa.gov/iaq/asthma/index.html>

FY 2004 Supporting Performance Measure: Children under 6 not Exposed to Environmental Tobacco Smoke (ETS) in the Home

Performance Database: National telephone survey (National Survey on Environmental Management of Asthma) of a representative sample of 87,652 homes, expected to produce responses from 52,591 households, who will respond to a question about whether they allow smoking in their home, and if so, whether young children are in the household.

Data Source: EPA is the data source. The ETS survey, which has received Office of Management and Budget clearance, seeks information about how many people permit smoking in their home. The information is obtained during the screening phase of the larger asthma survey.

Methods, Assumptions and Suitability: EPA has designed the asthma survey questionnaire in which the respondents are asked to provide primarily yes/no responses. By using yes/no and multiple choice questions, the Agency has substantially reduced the amount of time necessary for the respondent to complete the survey and has ensured consistency in data response and interpretation.

The survey instrument was developed in consultation with staff from EPA's IED, EPA's Regional offices, and the National Center for Health Statistics (NCHS) to ensure that respondents will understand the questions asked and will provide the type of data necessary to measure the Agency's objectives.

EPA estimates that of the 87,652 households which make up the sampling frame, 60 percent, or 52,591, will be contacted successfully and will agree to participate in the screening survey. ETS information will be obtained from these 52,591 individuals. The sample will be large enough to yield the number of responses necessary to achieve a two percent precision rate at the 95 percent confidence

QA/QC Procedures: Survey is designed in accordance with approved Agency procedures. Additional information is available on the Internet: <http://www.epa.gov/icr/players.html>

Data Quality Review: EPA reviews the data to ascertain their reliability and resolves any discrepancies.

Data Limitations: Random digit dialing methodology is used to ensure that a representative sample of households has been contacted; however, survey is subject to inherent limitations of voluntary telephone surveys of representative samples. Limitations of phone surveys include: 1) inconsistency of interviewers following survey directions. For example, an interviewer might ask the questions incorrectly or inadvertently lead the interviewee to a response; 2) calling at an inconvenient time. For example, the respondent might not want to be interrupted at the time of the call and may resent the intrusion of the phone call. The answers will reflect this attitude.

Error Estimate: EPA's survey has been designed to ensure that, at the 95 percent confidence level, its estimate of the number of children under 6 not exposed to ETS in the house is within two percentage points of the true value. EPA is confident that these precision rates are more than adequate.

New/Improved Data or Systems: None

References: There is no website specifically relating to the survey. However, Environmental Tobacco Smoke (ETS) information can be obtained at <http://www.epa.gov/iaq/ets>. The public would need to contact OAR directly.

Performance Database: Survey of representative sample of schools using a comprehensive database of private and public schools. The survey will help determine the number of schools adopting and implementing good indoor air quality (IAQ) practices consistent with EPA's Tools for Schools (TfS) guidance. The survey is being finalized and results are expected in 2003.

Data Source: EPA-developed questionnaire. Other supporting data from the United States Department of Education National Center for Education Statistics.

Methods, Assumptions and Suitability: The design of the IAQ Practices in Schools Survey is a random sample with stratification by geography and school type. Such stratification is expected to decrease the variances of sample estimates and, because of interest in these specific strata, add strength to the survey design. Additional data from other sources, such as the United States Department of Education National Center for Education Statistics, will facilitate analysis and interpretation of survey results.

QA/QC Procedures: Survey is designed in accordance with approved Agency procedures. Additional information is available on the Internet: <http://www.epa.gov/icr/players.html>

Data Quality Review: EPA reviews data for completeness and quality of responses.

Data Limitations: Subject to inherent limitations of survey sampling.

Error Estimate: N/A.

New/Improved Data or Systems: Prior to the survey, EPA simply tracked the number of schools receiving the TFS guidance and estimated the population of the school to determine the number of students/staff experiencing improved indoor air quality. With this survey, EPA is querying a statistically representative sample of schools, to estimate the number of schools that have actually adopted and implemented good IAQ management practices consistent with the TFS guidance.

References: See the United States Department of Education National Center for Education Statistics, <http://nces.ed.gov/>. See also Indoor Air Quality Tools for Schools Kit (402-K-95-001) at <http://www.epa.gov/iaq/schools>. There is no website specifically relating to the survey. Inquiries may be made directly to the EPA Office of Indoor Environments.

Coordination with Other Agencies

EPA serves a unique role in programs related to safety, consumer products, and schools because of its experience and track record in raising public awareness of actual and potential indoor air health risks, in addition to past work on indoor air quality issues associated with consumer products, and its expertise in the areas of indoor air quality in schools. EPA also plays a lead role in the Task Force for Environmental Asthma Issues.

EPA works with Federal, state, Tribal, and local government agencies, industry, non-profit organizations, individuals as well as other nations to promote more effective approaches to identifying and solving indoor air quality problems. EPA works with the:

- Department of Health and Human Services (HHS) to develop and conduct programs aimed at reducing children's exposure to known indoor triggers of asthma, including ETS;
- Department of Housing and Urban Development (HUD) on home safety issues, especially those affecting children;
- Consumer Product Safety Commission (CPSC) to identify and mitigate the health hazards of consumer products designed for indoor use;
- Department of Education (DoEd) to encourage construction of schools with good indoor air quality; and
- Department of Agriculture (USDA) to encourage USDA Extension Agents to conduct local projects designed to reduce risks from indoor air quality.

As Co-chair of the interagency Committee on Indoor Air Quality (CIAQ), EPA works with the CPSC, the Department of Energy, the National Institute for Occupational Safety and Health, and the Occupational Safety and Health Administration to review EPA draft publications, arrange the distribution of EPA publications and coordinate the efforts of Federal agencies with those of state and local agencies concerned with indoor air issues.

Statutory Authorities

Radon Gas and Indoor Air Quality Research Act of Title IV of the Superfund Amendments and Re-authorization Act (SARA) of 1986

Toxic Substances Control Act (TSCA), section 6, Titles II, and Title III (15 U.S.C. 2605 and 2641-2671)

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

Clean Air Act (CAA)

Safe Drinking Water Act (SDWA)

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems

Objective: Facilitate Prevention, Reduction and Recycling of PBTs and Toxic Chemicals

By 2005, facilitate the prevention, reduction, and recycling of toxic chemicals and municipal solid wastes, including PBTs. In particular, reduce by 20 percent the actual (from 1992 levels) and by 30 percent the production-adjusted (from 1998 levels) quantity of Toxic Release Inventory (TRI)-reported toxic pollutants which are released, disposed of, treated, or combusted for energy recovery, half through source reduction.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Facilitate Prevention, Reduction and Recycling of PBTs and Toxic Chemicals	\$48,461.0	\$46,115.9	\$49,958.2	\$3,842.3
Environmental Program & Management	\$38,628.1	\$36,122.0	\$39,950.6	\$3,828.6
State and Tribal Assistance Grants	\$9,832.9	\$9,993.9	\$10,007.6	\$13.7
Total Workyears:	180.5	196.0	194.5	-1.5

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
ATSDR Superfund Support	\$654.3	\$0.0	\$0.0	\$0.0
Congressionally Mandated Projects	\$1,700.0	\$0.0	\$0.0	\$0.0
Design for the Environment	\$4,707.6	\$4,810.7	\$4,880.6	\$69.9
Facilities Infrastructure and Operations	\$2,726.4	\$2,779.1	\$2,936.7	\$157.6

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Legal Services	\$70.2	\$197.8	\$203.5	\$5.7
Management Services and Stewardship	\$478.1	\$493.4	\$442.5	(\$50.9)
New Chemical Review	\$1,611.6	\$1,606.4	\$1,591.2	(\$15.2)
PBTI	\$2,572.5	\$2,580.5	\$2,419.0	(\$161.5)
Pollution Prevention Incentive Grants to States	\$5,986.3	\$5,986.3	\$6,000.0	\$13.7
Pollution Prevention Program	\$9,597.8	\$9,902.8	\$10,626.9	\$724.1
RCRA State Grants	\$4,007.6	\$4,007.6	\$4,007.6	\$0.0
RCRA Waste Reduction	\$14,633.7	\$13,740.7	\$16,850.2	\$3,109.5
Regional Management	\$9.3	\$10.6	\$0.0	(\$10.6)

FY 2004 Request

Pollution prevention (P2) is designed to avoid creation of pollutants at the sources, in contrast to risk management and remediation, which are designed to control pollutants that have already been introduced. Under the Pollution Prevention Act of 1990 and its directive that "pollution should be prevented or reduced at the source whenever feasible,"³⁸ P2 and source reduction became the Agency's preferred approaches to environmental protection. Compared to approaches that control, treat, or clean up pollution, P2 can sometimes be more effective in reducing potential health and environmental risks to the extent that it may:

- Reduce releases to the environment;
- Reduce the need to manage pollutants;
- Avoid shifting pollutants from one media (air, water, land) to another; and
- Protect natural resources for future generations by cutting waste and conserving materials.

Preventing pollution can be cost-effective to industry in cases where it reduces excess raw materials and energy use. P2 can also reduce the need for expensive "end-of-pipe treatment" and disposal, and support quality improvement incentives in place at facilities.³⁹ Current EPA strategies include institutionalizing preventive approaches in EPA's regulatory, operating, and compliance/enforcement programs and facilitating the adoption of pollution prevention techniques by states, tribes, the academic community and industry. EPA uses market incentives,

³⁸ 40 CFR part 710, as amended by 68 FR 848, January 7, 2003

³⁹ Pollution Prevention Act of 1990, Section 13103, Findings

environmental management tools and new technologies to promote wider adoption of P2 measures.

In FY 2004, EPA is proposing an integrated and coordinated cross-agency proposal designed to address the serious issue of children's environmental health in schools. The initiative includes a cross-media component that will provide comprehensive, easily accessible information and guidance to schools on how to reduce potentially harmful exposures to pollutants in schools. It also includes components designed to: 1) improve indoor air and reduce asthma attacks in schools, 2) implement integrated pest management programs in schools, and 3) reduce exposure to lead and mercury in schools.

Even though more work remains, much progress has been made in carrying out these strategies. Perhaps the fastest growing opportunities lie in private sector partnerships, which enable EPA's knowledge of P2 principles and techniques to be combined with industry-specific expertise in production and process design. Another opportunity for building P2 practices into industrial operations lies in partnerships with the academic community. By developing and providing educational tools for universities to train the next generation of engineers, we plant the seeds needed to replicate P2 practices throughout industry.

FY 2004 Key Program Activities

In FY 2004, EPA will work to achieve the pollution prevention objective by pursuing a coordinated set of activities, tailoring programs and projects to the concerns and interests for each arena. Every type of organization and each individual consumer have a part to play in preventing pollution. P2 approaches can be flexibly applied to most endeavors. The Agency will promote effective pollution prevention through the following programs and activities:

Pollution Prevention Program

(a) Suppliers Partnership for the Environment. Businesses can sometimes reduce costs significantly by implementing effective P2 programs. However, there are times when the savings are not readily apparent because of the structure of the company's internal accounting system. The Agency will play a role in encouraging businesses to modify their management accounting systems to fully and explicitly account for environmental costs. These strategies are designed to improve the current business management framework in ways that will enable companies to more easily choose prevention practices. The Agency will develop Suppliers Partnership for the Environment to provide corporations with a fully developed, self-sustaining module for the delivery of environmental technical assistance and pollution prevention tools, such as the Persistent Bioaccumulative and Toxic (PBT) program. Emphasis in FY 2004 will highlight voluntary efforts with selected industrial sectors to green their supply chains. These partnerships will be fully implemented in FY 2004.

(b) Government Actions. The Agency is invested in sharing information and supporting State programs on Pollution Prevention. During FY 2004, State Program Support will include management of the Pollution Prevention Grants and P2 Results as well as support of the National Pollution Prevention Roundtable. In the area of Information Sharing, EPA will continue

funding the Pollution Prevention Information Clearinghouse and management of the highly successful Pollution Prevention Resource Exchange.

(c) *Safer Products.* EPA has the lead in implementing the Pollution Prevention Act (PPA) and in carrying out Executive Order 13101 and its predecessor, Executive Order 12873, section 503. The PPA requires EPA to “identify opportunities to use Federal procurement to encourage source reduction.”⁴⁰ These orders require the Federal government to use its purchasing power - about \$230 billion in goods and services each year - to create a demand for products and services that have a reduced impact on the environment (i.e., environmentally preferable products, or EPPs). The Agency finalized guidance in 1999 to help executive agencies identify and purchase environmentally preferable products and services.⁴¹ In FY 2004, EPA will expand demonstration projects to include several priority product categories. It will also continue its partnership with the National Park Service (NPS) and provide assistance and technical information to Federal agency purchasers on greening purchases of cleaning products, food serviceware, conference and meeting services, and electronics.

Looking at the demand side of the equation, the Buy Clean program applies Environmentally Preferable Purchasing principles to indoor environmental quality, with an emphasis on its potential to reduce risk to schoolchildren from exposure to indoor air pollutants. In FY 2004, EPA will finalize and distribute the case studies from the pilot Buy Clean projects and recognize the accomplishments of the schools that participated in the pilot.

EPA will continue with its efforts to provide information that consumers can use to make environmentally friendly choices. Using the principles established by the Consumer Labeling Initiative (CLI), EPA will continue to promote proper labeling. Proper labeling is especially important for products that are used by or around children, so that parents can evaluate potential risks to children from possible exposure to toxic chemicals. During FY 2004, the CLI program will work specifically with Federal and local governments, States, and community organizations to broaden its public outreach on *Reading the Label – First*, encouraging consumers to read the product label prior to purchase and use.

(d) *PBT Program.* The Agency is concerned about persistent, bioaccumulative, and toxic (PBT) substances, such as mercury, dioxins/furans, and PCBs, because these pollutants persist in the environment and can build up to high concentrations in human and animal tissue. Some PBTs can cause developmental and neurological defects in fetuses and young children and some are also suspected endocrine disruptors.⁴²

Pollution Prevention (P2) Grants Program

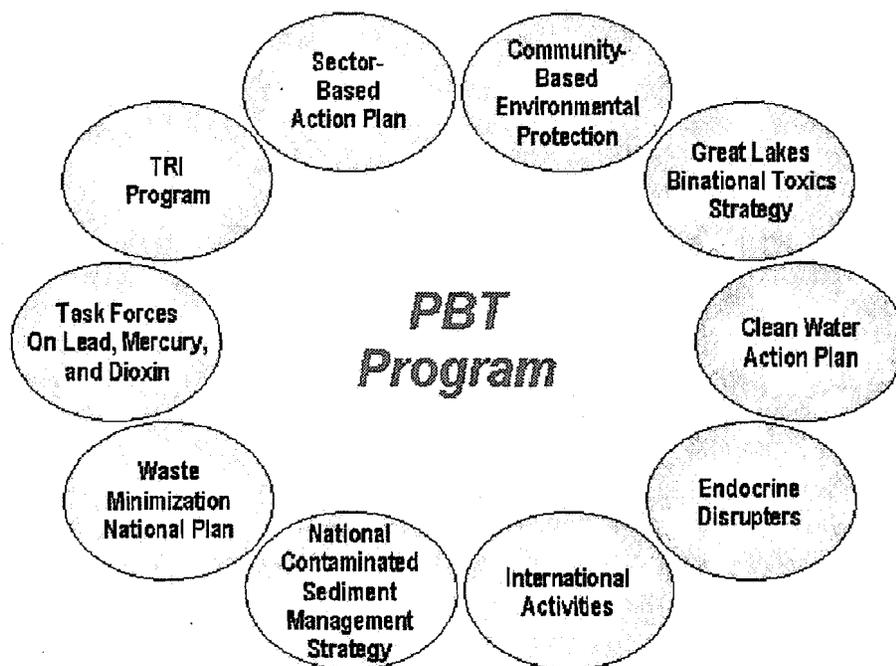
The States are the primary sources for businesses and communities seeking assistance in identifying and applying prevention approaches. EPA has provided seed money to help states promote innovation and develop state capacity. The P2 grants foster the development of new P2

⁴⁰ Pollution Prevention Act of 1990, Section 13103, EPA Activities, (b) Functions

⁴¹ Federal Register, Friday, Aug. 20, 1999. Part VII, EPA Vol. 64, No. 161. Final Guidance on Environmentally Preferable Purchasing for Executive Agencies, Notice

⁴² EPA web page - Frequently Asked Questions- How do PBTs harm us and the environment?
<http://www.epa.gov/pbt/faq/htm#1>

PBT Program Connections



approaches by providing funds to states in the areas of technical assistance and training, education and outreach, regulatory integration, demonstration projects, legislative activities and awards programs. Another key program for states, the Pollution Prevention Resource Exchange, helps to support technical assistance organizations by coordinating the development and dissemination of up-to-date information on P2 approaches.

Persistent, Bioaccumulative, Toxic Chemicals

To address continuing issues associated with PBTs, EPA launched a cross-office, cross-media PBT program in FY 1999. Through this effort, the Agency seeks to prevent, minimize and, when possible, eliminate PBTs, which are harmful to both human health and the environment. The initiative's cross-media approach is designed to stop the transfer of PBT pollutants across media using all of EPA's tools: regulatory, compliance assistance, enforcement, research, voluntary actions, prevention, and international negotiations. The PBT program fosters cross-agency collaboration on activities related to priority PBTs by building on actions by individual national program offices and regions, and by providing resources for priority PBT activities that further this agency wide effort. In FY 2002, EPA released Alkyl-lead, the first of several National Action Plans.⁴³ In FY 2004, primary attention will be focused on mercury and dioxins/furans. While all twelve National Action Plans are being developed, the Agency continues to look for opportunities to seek reductions in these priority PBT chemicals.

A good reduction opportunity has been found in the Hospitals for a Healthy Environment (H2E) program, which is a collaborative effort among EPA, the American Hospital Association, Health Care Without Harm, and the American Nurses Association. As voluntary H2E

⁴³ Federal Register, July 23, 2002, Vol. 67, Number 141, Page 48177-48178 - Final National Action Plan for Alkyl-lead; Notice of Availability. EPA web site: <http://www.epa.gov/pbt/alkyl.htm>

participants, hospitals and health care facilities pledge to eliminate mercury use by FY 2005 and to reduce total hospital waste by 50 percent by 2010. In FY 2004, H2E will continue to enroll partners, and we expect that as many as one-third of the nation's 6,000 hospitals will pledge to the program. With the FY 2005 goal fast approaching, H2E will be working hard in FY 2004 to report measurable results from the program.

In FY 2004, the Agency will publish its Mercury National Action Plan with long-term goals for EPA's future mercury activities, and will continue the Agency's ongoing mercury activities aimed at reducing releases, reducing exposure, reducing use in products and processes, and ensuring safe management of wastes and supplies. For all priority PBTs, critical measurement and monitoring efforts will be in their third year, facilities will be collecting PBT chemical release data under the new TRI rule and submissions under TSCA for approval of new PBT chemicals for entry into commerce will be under close scrutiny. New activities for FY 2004 will include:

- Implementing a cross-agency routine PBT monitoring strategy.
- Continuing efforts on Mercury and PCBs and actively implementing the strategy/action plan for dioxin and furan.
- Seeking continued improvement in PBT risk communication through an agency wide consolidated PBT website (created in 2003).
- Reviewing the results from major measurement, monitoring and data collection efforts.
- Infusing into sector partnerships the products of Regional/State PBT-funded activities.

Design for the Environment and Other Programs

One of the Agency's key P2 industry sector-based programs focuses on fostering cleaner technologies and the reduction of potential risks to health and the environment through the adoption of safer chemicals and workplace practices. EPA's Design for the Environment (DfE) Program works in partnership with industry sectors to develop comparative risk, performance, and cost information about alternative technologies, chemicals, and processes to better aid industry in making environmentally informed decisions. Through this program, EPA has entered into long-term partnerships with more than 15 industries, including printing and graphics; textile and garment care; electronics and computers; automotive manufacturing, repair, and refinishing; industrial and institutional laundries; foam furniture manufacturing; paints and coatings; and others. The Agency is developing a program to bring its chemical expertise into the marina sector, and plans to give marinas and boat owners the information and tools needed to make environmentally informed decisions.

DfE partnerships have begun to see changes in either the use of chemicals or workplace practices in industrial and institutional laundry product formulations, dry-cleaning and garment care, automotive refinishing practices, printing processes, and in the electronics industry.

DfE has completed comparative assessments on over 800 chemicals and continues to evaluate additional chemicals each year.⁴⁴ The switch to alternative cleaner, safer chemistries and/or the adoption of P2 practices in the workplace can result in the reduction of the use of hazardous chemicals.⁴⁵ These use reductions will translate into lower quantities of hazardous chemicals released, disposed of, treated, or combusted for energy recovery; contributing to the overall objective of achieving a 20 percent reduction in such quantities.

DfE's partners in the flexographic ink, electronics, and automotive refinishing industries completed the multi-year technical portion of the partnership project but outreach activities continue. DfE is also investigating the feasibility of technology transfer of DfE "lessons-learned" to additional industries. For example, EPA will work with other industries that employ spray application practices and use chemicals similar to those found in the collision repair industry, such as the foam manufacturing industry. DfE will continue its outreach activities with regional, state, and local assistance providers by conducting workshops on how to effect continuous improvement in collision repair shops, using the DfE Best Practices Outreach Kit.

The DfE electronics industry partnership will continue to focus on life cycle impacts of lead solder and its alternatives. The ongoing partnership with the electronics industry, which faces rapid and continuous change and the expansion to new areas of investigation, is valued by both DfE and the partners. In the marina industry, the focus will be on developing tools and chemical information to help marina operators and boat owners make environmentally preferable choices. The DfE formulator initiative will continue to reach new industries in FY 2004, including cleaning and related products, fragrances, solvents, and other markets. DfE has developed partnerships with industry and regional groups to implement its expanded goals. DfE is placing greater emphasis on working with the Regional and State P2 Programs to incorporate DfE strategies and goals into regional-based projects. The DfE Program will maintain a leadership role but will serve more as a technical and communications guide to regional and state partners. DfE will look to the Regional and State P2 programs to identify critical areas of concern and opportunities for integrating DfE concepts. The DfE Program will promote the use of its approaches including substitutes assessment, life-cycle analysis, best management practices, and environmental management systems and continue to foster stronger Regional ties through collaborative projects with EPA regional offices.

Resource Conservation and Recovery Program

Pollution prevention and safe recycling are two of the nation's most effective tools for environmental protection. Well implemented, systematic source reduction and recycling programs solve waste management problems at their source, lowering pressure on the environment and reducing energy use at a number of critical points: production of raw materials, subsequent processing into finished products, and eventual transport and disposal at a waste management facility. At the same time, the best programs save business, industry, government, and citizens' money.

⁴⁴ U.S. EPA, Office of Pollution Prevention and Toxics, Design for Environment, www.epa.gov/dfe

⁴⁵ U.S. EPA, Office of Pollution Prevention and Toxics, Design for Environment, www.epa.gov/dfe

The Resource Conservation and Recovery Act (RCRA) directs EPA to promote a reduction in the amount of waste generated and to improve recovery and conservation of materials through recycling. The RCRA program emphasizes a national policy focusing on a hierarchy of waste management options that advocates source reduction, reuse and recycling over treatment and disposal. In the 1990 Pollution Prevention Act, Congress codified this hierarchy of waste management options, reaffirming the need for source reduction and recycling programs for both hazardous and municipal solid wastes.

The waste reduction activities in this objective include:

- Fostering partnerships with states;
- working with tribes and local communities;
- carrying out plans to reduce toxic chemicals in industrial hazardous waste streams; and
- defining techniques to reduce the generation of municipal, hazardous and other solid waste through pollution prevention and developing methods to increase hazardous, municipal, and non-hazardous industrial solid waste recycling.

EPA launched the Resource Conservation Challenge (RCC) as a major national effort to find flexible, yet more protective ways to conserve our valuable natural resources through waste reduction and energy recovery. The RCC puts Resource Conservation and Recovery back into RCRA by conserving our resources and saving and recovering energy through waste reduction and waste minimization. To make that happen, EPA is challenging everyone to take personal responsibility for their day-to-day actions, and to do at least one thing daily that conserves our natural resources.

In FY 2004, EPA will implement aspects of the Challenge through the National Waste Minimization Partnership program to reduce hazardous wastes containing priority chemicals. EPA will sponsor industry workshops, encourage increased technical assistance and information sharing, and publicly recognize industry leaders. Regional and state staffs will encourage partners and aid in identifying waste minimization goals and avenues for achieving them cost-effectively. We expect to expand our work from our five industrial pilot facilities to other key industrial sectors such as facilities generating lead and cadmium containing hazardous wastes. EPA will also encourage the piloting of chemical management systems which create a positive economic incentive for chemical suppliers to partner in finding ways to reduce chemical use.

As part of the Agency's effort to remove regulatory barriers to safe hazardous waste and materials recycling and to promote ways to improve and encourage recycling, EPA will continue to respond to court decisions concerning its jurisdiction over recycling secondary materials.

In FY 2004, the Agency will place an emphasis on efforts that minimize the use of hazardous constituents and maximize the recovery of hazardous materials. EPA will examine where it can implement regulatory innovations, including appropriate rules, guidance, and other outreach materials, to increase the safe recycling of hazardous wastes. We will focus on specific industry sectors, like metal finishing, petroleum, and academic research laboratories. For

example, we will work with academic laboratories to tailor RCRA regulations to achieve maximum efficiency while continuing the high level of human health and environmental protection. This effort is designed to reduce the use of constituents and chemicals of concern and educate high school and university students on safe handling methods. The goal is to promote environmental stewardship within academia so that, once the students graduate, they can integrate environmental values into their workplace and lives. EPA also plans to promulgate regulations excluding cathode ray tubes from hazardous waste regulation and complete the proposal covering metal finishing processes.

EPA will work to address issues raised in comments on the proposal to reform regulations applicable to the Definition of Solid Waste. Depending on the number of issues, their complexity, and the need for additional study, the Agency should be able to make significant progress in FY 2004 on finalizing the regulations. In addition, we will continue to collaborate with regions and states to clarify or revise existing policy and guidance related to hazardous waste recycling.

In FY 2004, the Agency will experiment with projects that test alternative regulatory requirements. For example, EPA will be reviewing and developing alternatives for the current generator regulations, identifying opportunities to streamline the regulations to reduce burden on generators and promote safe hazardous waste recycling. To encourage energy conservation, EPA plans to develop partnerships with the automotive and fuel industries to address any RCRA barriers to emerging technologies, such as fuel cells.

EPA also will focus efforts on promoting environmentally sound management and recovery of wastes and materials that are in international commerce.

One of EPA's goals in the area of municipal solid waste (MSW) is to increase the portion of MSW recycled nationally to 35% by 2005. MSW includes waste generated from residences, commercial establishments, institutions, and industrial non-process operations. This challenging goal was set with a clear vision that achieving 35% recycling would require a response by almost every segment of society (manufacturers, other businesses, all levels of governments, and all 280 million Americans), since all generate MSW and have opportunity to increase the portion recycled.

The growth of recycling today has slowed from the pace of the early 1990s, making attainment of the 35% rate by 2005 more difficult than originally foreseen. Clearly, recycling is not in a downturn; however, it is growing at a slower rate, despite the efforts of EPA and recycling program implementers across society. Several factors contribute to this trend including: reaching audiences where recycling is more difficult (e.g., high rise apartments, office and business settings, and public facilities) and changes in the waste stream (e.g., rapid turnover of new electronics products, increased packaging from e-commerce, new beverage containers, etc.)

While EPA alone cannot attain the national goal, in FY 2004 the Agency will work with others to address these challenges using a broad range of methods and tools including:

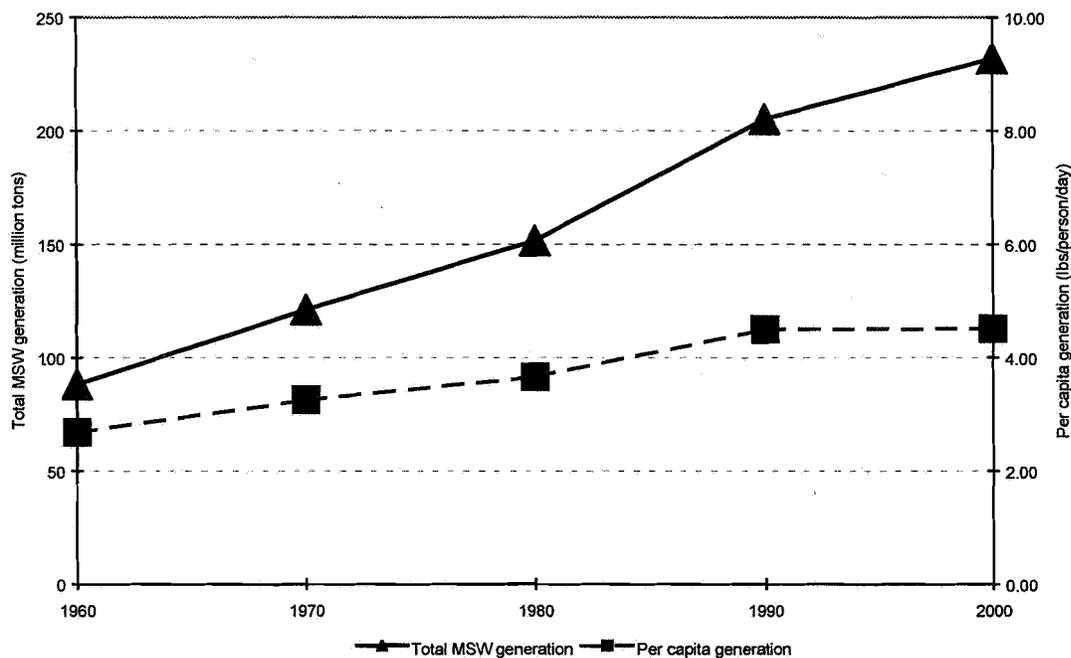
- Establishing and expanding many partnerships with industries, states and other entities to reduce waste. These partnerships will produce smarter and faster results, which ultimately will create a cleaner environment.
- Working with major retailers, electronic manufacturers and the amusement and motion picture industries to revitalize, create, and display waste prevention and recycling messages, especially messages related to used computers and other electronics recycling.
- Spreading the conservation and recycling message to consumers, youth and under-served communities, via movie and video trailers; on posters targeted to schoolchildren; on in-store display advertisements; and in print and broadcast public service announcements. These efforts aim to educate and encourage everyone to make smarter environmental decisions.
- Designing activities and communication tools that encourage students and teachers to start innovative recycling programs and make smart environmental decisions.
- Developing tools and projects to promote waste reduction, recycling, and neighborhood revitalization in Hispanic and African-American communities, and on Native American lands.

Waste reduction has clear benefits in combating the ever-growing stream of municipal solid waste (MSW) and is also an integral part of the Resource Conservation Challenge. Annual generation of MSW grew steadily from 88 million to 232 million tons between 1960 and 2000. EPA's municipal solid waste program provides national leadership, technical assistance and outreach for businesses, industry, and municipalities implementing source reduction and recycling systems in their plants, facilities and communities. This also includes states and tribes whose laws provide the structure for these activities. The program implements a coordinated set of strategies to manage waste, including source reduction (also called waste prevention), recycling (including composting), combustion, and landfilling. Preference is given to strategies that maximize the diversion of waste from disposal facilities, with source reduction (including reuse) as the highest priority. In addition, the Challenge asks businesses, manufacturers, and consumers to adopt a resource conservation ethic; to operate more efficiently; to purchase more wisely; and to make and use products that are easy to recycle and are composed of recycled materials. The Challenge also provides new and convenient opportunities for consumers to reduce, reuse and recycle waste.

Early successes under the RCC, which will continue into FY 2004, include:

- Joining with 8 major partners from the manufacturing, retail and recycling communities, in launching the "Plug Into Recycling" education campaign;
- Working with partner on nationwide public service announcements on recycling; and completing major steps in encouraging "green buildings" and reducing construction and demolition debris.

Figure ES-1: MSW Generation Rates from 1960 to 2000



While challenging American businesses and consumers to realize the impact of their actions on the environment, EPA continues to expand successful, existing programs such as WasteWise and Jobs Through Recycling. Using new approaches to waste management, EPA aims to reduce more waste, to increase recycling and the use of recycled products, and to recover more energy from waste, while still protecting human health and the environment.

EPA continues to reap the benefits of well-established programs, such as WasteWise. Developed in FY 1994 as a voluntary partnership program to help businesses, governments, and institutions reduce and recycle municipal solid waste, the program now has more than 1,200 partners in more than 50 industrial sectors, including many Fortune 500 companies. Through FY 2001, WasteWise partners have reduced over 35 million tons of waste through waste prevention and recycling efforts. EPA also estimates that their partners' efforts since the program's inception have prevented the emission of nearly 30 million tons of carbon equivalent, similar to removing more than 20 million cars from the road for one year. To help partners reach waste reduction goals, EPA is providing a variety of technical assistance tools, including a hotline, newsletters and bulletins, and on-line resources. In FY 2002, six tribes were presented with WasteWise awards to recognize their outstanding efforts in implementing solid waste projects and education programs on their reservations.

WasteWise continues to facilitate progress within the Federal sector and now has 75 Federal organizations as partners. In 2002 WasteWise initiated a campaign to promote large volume waste reductions that included electric utilities, pulp and paper, and automotive sector companies. The initial emphasis of the campaign was on beneficial use of coal ash from utilities. EPA worked with key industry, government and non-governmental organizations to develop technical assistance materials to promote the use of Resource Management as a holistic tool for

waste management and reduction. EPA is continuing its efforts to develop a product stewardship agreement with the electronics industry and is also working with the carpet industry to continue implementation of an agreement reached in FY 2001.

EPA is also engaged in a number of efforts to facilitate greater infrastructure and market development for collecting, reusing, and recycling computers and other electronic components, as well as the design of more environmentally friendly products. EPA is working with electronics manufacturers, recyclers, retailers, state and local governments, and non-governmental organizations, as part of the National Electronics Product Stewardship Initiative (NEPSI), to create a national financing system, culminating in a voluntary national agreement for managing used electronics. EPA is also working to create information on the management of end-of-life electronics to optimize resource recovery and minimize risks during recycling.

Early in FY 2002, the carpet industry's trade association and major manufacturers, along with a variety of state and regional governments, signed a breakthrough Memorandum of Understanding (MOU) establishing a goal of diverting 40 percent of used carpets from landfills by 2012 (compared to current levels of under 5 percent). EPA will continue to work with the carpet manufacturers in FY 2004 to support the development of recycling infrastructure and provide for market development as well as opportunities for the government procurement agencies to purchase recycled content.

EPA will work closely with the network of state and Tribal recycling and economic development officials created through our Jobs Through Recycling (JTR) program. This program has already provided significant assistance to entrepreneurs creating or expanding recycling businesses throughout the country. During FY 2004, the JTR program will continue to help quantify and communicate the employment and financial impacts of recycling businesses.

Children's Health

An integrated Environmental Management System (EMS) approach allows schools to efficiently manage their limited resources so that they can target the most pressing environmental issues. In FY 2004, the Agency will assemble existing guidance, identify gaps and develop additional guidance as needed to assist school districts and individual schools in implementing Environmental Management Systems. At the local level, a pilot project approach will demonstrate the effectiveness of the integration. The EMS will incorporate the best practices for handling, storing, recycling or disposing of excess, outdated, or hazardous chemicals, pesticides, and materials; building energy and air quality; design and rehabilitation; children's health; and how to involve administrators, teachers, and students in a continuing program.

Green Chemistry and Green Engineering

The Pollution Prevention Act not only established a national policy to prevent or reduce pollution at its source, it also provided an opportunity to expand beyond traditional EPA programs and devise creative new strategies to protect human health and the environment.⁴⁶ Green chemistry--the design of chemical products and processes that eliminate or reduce the use

⁴⁶ Pollution Prevention Act of 1990, Section 13103, EPA Activities, (b) Functions

or generation of hazardous substances--is a highly effective approach to pollution prevention because it applies innovative and cost-effective scientific solutions to real-world environmental problems, all through voluntary partnerships. Green Engineering focuses more closely on outreach to practicing and future engineers and their approach to the design and redesign of new and existing industrial processes.

The goal of the Green Chemistry Program is to promote the research, development, and implementation of innovative chemical technologies that eliminate or reduce hazardous substances during the design, manufacture, and use of chemical products and processes. More specifically, the Green Chemistry Program supports fundamental research in the area of environmentally benign chemistry as well as a variety of educational activities, international activities, conferences and meetings, and tool development. Green Chemistry partners include industry, trade organizations, academia, scientific societies, and other state and Federal government organizations.

Eliminating 150 Million Pounds of Pollutants

By the end of FY 2004, EPA expects that over 150 million pounds of hazardous chemicals and solvents will have been eliminated through the Green Chemistry Challenge Award Program. Initiated in 1996, the Presidential Green Chemistry Challenge Award program has achieved significant pollution prevention by reducing the quantity of hazardous chemicals and solvents in the environment through the adoption of safer technologies and chemicals. Thus far, cumulative pounds of hazardous chemicals and solvents eliminated are 152 million pounds; cumulative gallons of hazardous chemicals and solvents eliminated are 4.7 million gallons. As such, EPA's FY 2004 projections have already been exceeded. At these rates, potential eliminations in the future are 1.6 billion pounds per year and 650 million gallons per year. Substances eliminated include chlorofluorocarbons (CFCs), volatile organic solvents (VOCs), persistent, toxic, and bioaccumulative chemicals and solvents, as well as very corrosive and toxic chemical substances. The program is also positively impacting water and energy uses and carbon dioxide emissions.

The Green Chemistry Challenge Program continues to be effective at catalyzing the behavioral change necessary to drive the research, development, and implementation of green chemistry technologies. In addition, this program also continues to provide an opportunity to quantitatively demonstrate the technical, environmental, and economic benefits that green chemistry technologies offer.

In recent years, the program has made significant progress in several areas such as the following:

- Broad, competitive, non-target research efforts,
- Education activities,
- Recognition efforts, and
- International initiatives.

Through FY 2005, the Green Chemistry Program will also be focusing its education, outreach, awards, and research efforts to target audiences not currently involved in green chemistry product and process design and specific high priority chemicals, products, and/or processes for which safer alternatives are not available. For example, the Program will be

entering a multi-year partnership with the United Negro College Fund Special Programs to explore opportunities for incorporating green chemistry into the chemistry curricula of historically African-American colleges. In addition, the Program will investigate inherently safer chemical alternatives to high volume chemical processes in an effort to reduce our nation's chemical vulnerabilities.

Another approach to eliminating pollution before it occurs is the Green Engineering program. The goals of the Green Engineering program are twofold:

- To incorporate "green" or environmentally-conscious thinking and approaches into the academic and industrial communities regarding the design, commercialization and use of processes and products, and
- To promote and foster development and commercialization of Green Engineering approaches and technologies.

The focus of the Green Engineering Program in the past few years has been on the academic community. To accomplish its goals, the Green Engineering Program first developed modules and a standardized textbook, published in 2001 and titled "Green Engineering: Environmentally Conscious Design of Chemical Processes and Products,"⁴⁷ which can be used by universities for Green Engineering courses to provide starting references for practicing engineers. Over the past few years, the Green Engineering Program has also worked with the universities and the American Society of Engineering Education's Chemical Engineering Division to develop "Green Engineering champions" and to incorporate Green Engineering into Chemical Engineering curricula. The aim is to develop future chemical engineers with Green Engineering training.

In FY 2004, the focus of the Green Engineering Program will broaden to include practicing engineers in addition to the academic community. The Green Engineering program will be working with the American Institute of Chemical Engineers and others to convert Green Engineering textbook and materials into industrial format and to develop training for practicing engineers. The Green Engineering program will also be working with other groups (with industry participation) to incorporate Green Engineering into their activities. In addition, there has been interest from non-chemical engineering disciplines to incorporate Green Engineering principles into other engineering curricula.

The pollution prevention approaches discussed above are intended to provide assistance and incentives to various sectors of society to promote new habits and new ways of doing business that are sustainable, cost-effective and beneficial to the environment. These activities can promote greater ecological efficiency and therefore help to reduce the generation and release of production-related waste.

⁴⁷ U.S. EPA, Office of Pollution Prevention and Toxics, Design for Environment, www.epa.gov/dfe

FY 2004 Change from FY 2003 Request

EPM

- (+724,100, +1.2 FTE) This increase will support the Children’s Health Initiative to reduce childhood exposure to hazardous chemicals.
- (+\$3,109,500) A redirection of \$2,700.0 from Goal 5, Objective 2, will support increases for energy recovery, recycling, waste minimization and retail efforts. Redirection reflects completion of program guidance documents, cost savings from docket consolidation and nearing completion of permitting goals. Additional resources have been provided for payroll, cost of living, and enrichment.
- There are additional increases in payroll, cost of living, and enrichment for new and existing FTE

GOAL: PREVENTING POLLUTION AND REDUCING RISK IN COMMUNITIES, HOMES, WORKPLACES AND ECOSYSTEMS

OBJECTIVE: FACILITATE PREVENTION, REDUCTION AND RECYCLING OF PBTS AND TOXIC CHEMICALS

Annual Performance Goals and Measures

Reducing PBTs in Hazardous Waste Streams

- In 2004 Reduce waste minimization priority list chemicals in hazardous waste streams an additional 3% (for a cumulative total of 46% or 81 million pounds) by expanding the use of State and industry partnerships and Regional pilots.
- In 2003 Reduce waste minimization priority list chemicals in hazardous waste streams by 43% to 86 million pounds by expanding the use of state and industry partnerships and Regional pilots
- In 2002 FY 2002 data is currently not available. Data will be available in December 2003.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percentage reduction in generation of priority list chemicals from 1991 levels.	not available	3%	3%	reduction

Baseline: The target for FY 2002 was for a reduction of 40% (91.2 million pounds) from the 1990 levels. Data will be available in December 2003.

Municipal Solid Waste Source Reduction

- In 2004 Divert an additional 1% (for a cumulative total of 33% or 79 million tons) of municipal solid waste from land filling and combustion, and maintain per capita generation of RCRA municipal solid waste at 4.5 pounds per day.
- In 2003 Divert an additional 1% (for a cumulative total of 32% or 74 million tons) of municipal solid waste from land filling and combustion, and maintain per capita generation of RCRA municipal solid waste at 4.5 pounds per day.
- In 2002 FY 2002 data is currently not available for the diversion of municipal solid waste from land filling and combustion or maintaining per capita generation of RCRA municipal solid waste. Analysis of FY 2002 data is anticipated by September 2004.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Millions of tons of municipal solid waste diverted.	not available	74	79	million tons
Daily per capita generation of municipal solid waste.	not available	4.5	4.5	lbs. MSW

Baseline: An analysis conducted in FY 2000 shows 70 million tons (30%) of municipal solid waste diverted and 4.5 lbs. of MSW per person daily generation.

Reduction of Industrial / Commercial Chemicals

- In 2004 Prevent, reduce and recycle hazardous industrial/commercial chemicals and municipal solid wastes
- In 2003 The quantity of Toxic Release Inventory (TRI) pollutants released, disposed of, treated or combusted for energy recovery in 2003, (normalized for changes in industrial production) will be reduced by 200 million pounds, or 2%, from 2002. This data will be reported in 2005.
- In 2002 Data Lag

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Reduction of TRI non-recycled waste (normalized)	Not Available	200 Million	200 Million	lbs
Alternative feed stocks, processes, or safer products identified through Green Chemistry Challenge Award			210	Prod/proc (cum)
Number of participants in Hospitals for a Healthy Environment			2000	Participants
Quantity of hazardous chemicals/solvents eliminated through the Green Chemistry Challenge Awards Program			150 million	lbs
For eco-friendly detergents, track the number of laundry detergent formulations developed.			36	formulations

Baseline: The baseline for the TRI non-recycled wastes measure is the amount of non-recycled wastes reported in FY2003. The baseline for eco-friendly detergents is 0 formulations in 1997. The baseline for the alternative feed stocks / processes measure is zero in 2000. The baseline for the quantity of hazardous chemicals / solvents measures is zero pounds in the year 2000. The baseline for the hospitals measure is zero in FY2001.

Verification and Validation of Performance Measures

Performance Measure: Reduction of TRI non-recycled wastes from FY 2003.

Performance Database: TRIM: Toxics Release Inventory Modernization, formerly TRIS (Toxics Release Inventory System) provides facility/chemical-specific data quantifying the amount of TRI-listed chemicals entering wastes associated with production process in each year. The total amount of each chemical in production-related wastes can be broken out by the methods employed in managing such wastes, including recycling, energy recovery, treatment, and disposal/release. Amounts of these wastes not recycled are tracked for this performance measure.

Data Source: Regulated facilities report facility-specific, chemical-specific release, waste and recycling data to EPA. For example, in calendar year 1999, 22,639 facilities filed 84,068 TRI reports.

Methods, Assumptions, and Suitability: TRI data is collected as required by sections 313 of EPCRA and 6607 of Pollution Prevention Act (PPA) (40 CFR '372; www.epa.gov/tri/). Only certain facilities in specific Standard Industrial Classification (SIC) codes are required to report annually the quantities of over 650 listed toxic chemicals and chemical categories released to each environmental medium and otherwise managed as waste(40 CFR ' 372; www.epa.gov/tri/). Regulation requires covered facilities to use monitoring, mass balance, emission factors and/or engineering calculations approaches to estimate releases and recycling volumes. For purposes of this performance measure, data controls are employed to facilitate cross-year comparisons: a

subset of chemicals and sectors are assessed that are consistently reported in all years; data are normalized to control for changes in production using published United States Department of Commerce economic indices.

QA/QC Procedures: Most facilities use EPA-certified automated Toxics Release Inventory (TRI) FORM R reporting tools, which contains automated error checking mechanisms. Upon receipt of the facilities' reports, EPA conducts automated edits, error checks, data scrubs, corrections and normalization during data entry and subsequent processing to verify that the information provided by the facilities is correctly entered in TRIM. The Agency does not control the quality of the data submitted by the regulated community. EPA does, however, work with the regulated community to improve the quality of their estimates.

Data Quality Review: The quality of the data contained in the TRI chemical reports is dependent upon the quality of the data that the reporting facility uses to estimate its releases and other waste management quantities. Use of TRI Form R by submitters and EPA's performance data reviews combine to help assure data quality. The GAO Report, Environmental Protection: EPA Should Strengthen Its Efforts to Measure and Encourage Pollution Prevention (GAO - 01 - 283), recommends that EPA strengthen the rule on reporting of source reduction activities. Although EPA agrees that source reduction data are valuable, the Agency has not finalized regulations to improve reporting of source reduction activities by TRI-regulated facilities. From the various data quality efforts, EPA has learned of several reporting issues such as incorrect assignment of threshold activities and incorrect assignment of release and other waste management quantities (EPA-745-F-93-001; EPA-745-R-98-012; www.epa.gov/tri/tridata/data_quality_reports/index.htm; www.epa.gov/tri/report/index.htm.) For example, certain facilities incorrectly assigned a 'processing' (25,000 lb) threshold instead of an 'otherwise use' (10,000 lb) threshold for certain non-persistent, bioaccumulative and toxic (PBT) chemicals, so they did not have to report if their releases were below 25,000 lbs. Also, for example, some facilities incorrectly reported fugitive releases instead of stack releases of certain toxic chemicals.

Data Limitations: Use of the data should be based on the user's understanding that the Agency does not have direct assurance of the accuracy of the facilities' measurement and reporting processes. TRI release data are reported by facilities on a good faith, best-estimate basis. EPA does not have the resources to conduct on-site validation of each facility's reporting data, though on-site investigations do occur each year at a subset of reporting facilities.

Error Estimate: From the various data quality efforts, EPA has learned of several reporting issues such as incorrect assignment of threshold activities and incorrect assignment of release and other waste management quantities (EPA-745-F-93-001; EPA-745-R-98-012; <http://www.epa.gov/tri/report/index.htm>; www.epa.gov/tri/tridata/data_quality_reports/index.htm; www.epa.gov/tri/report/index.htm)

New/Improved Data or Systems: EPA plans to develop regulations for improving reporting of source reduction activities by TRI reporting facilities.

References: www.epa.gov/tri/ and additional citations provided above. (EPA-745-F-93-001; EPA-745-R-98-012; <http://www.epa.gov/tri/report/index.htm>; www.epa.gov/tri/tridata/data_quality_reports/index.htm; www.epa.gov/tri/report/index.htm)

Performance Measure: Millions of tons of municipal solid waste diverted

Performance Database: Data are provided by the Department of Commerce. EPA does not maintain a database for this information.

Data Source: The baseline numbers for municipal solid waste source reduction and recycling are developed using a materials flow methodology employing data largely from the Department of Commerce and described in the EPA report titled "Characterization of Municipal Solid Waste in the United States." The Department of Commerce collects solid waste generation and recycling rate data from various industries.

Methods, Assumptions and Suitability: Data on domestic production of materials and products are compiled using published data series. United States Department of Commerce sources are used where available, but in several instances more detailed information on production of goods by end-use is available from trade associations. The goal is to obtain a consistent historical data series for each product and/or material. Data on average product lifetimes are used to adjust the data series. These estimates and calculations result in a material-by-material and product-by-product estimate of MSW generation, recovery, and discards.

QA/QC Procedures: Quality assurance and quality control are provided by the Department of Commerce's internal procedures and systems. The report prepared by the Agency, "Characterization of Municipal Solid Waste in the United States," is then reviewed by a number of experts for accuracy and soundness.

Data Quality Review: The report, including the baseline numbers and annual rates of recycling and per capita municipal solid waste generation, is widely accepted among experts. There are various assumptions factored into the analysis to develop estimates of MSW generation, recovery and discards.

Data Limitations: Non-hazardous waste data limitations stem from the fact that the baseline statistics and annual rates of recycling and per capita municipal solid waste generation are based on a series of models, assumptions, and extrapolations and, as such, are not an empirical accounting of municipal solid waste generated or recycled.

Error Estimate: N/A. Currently, the Office of Solid Waste (OSW) does not collect data on estimated error rates.

New/Improved Data or Systems: Because the statistics on MSW generation and recycling are widely reported and accepted by experts, no new efforts to improve the data or the methodology have been identified or are necessary. EPA plans to develop regulations for improving reporting of source reduction activities by TRI reporting facilities.

References: *Municipal Solid Waste in the United States: 1999 Facts and Figures*, EPA, July 2001 (EPA 530-R-01-014), <http://www.epa.gov/osw/index.htm>

FY 2004 Performance Measure: Quantity of hazardous chemicals/solvents eliminated through the Green Chemistry Challenge Awards Program and Number of alternative feedstocks, processes or safer products identified through Green Chemistry Challenge Awards Program

Performance Database: EPA is developing an electronic database ("metrics" database) which will allow organized storage and retrieval of green chemistry data submitted to the agency on alternative feedstocks, processes, and safer chemicals. The database is being designed to store and retrieve in systematic fashion information on the environmental benefits and, where available, economic benefits that these alternative green chemistry technologies offer. The database is also being designed to track the quantity of hazardous chemicals and solvents eliminated through implementation of these alternative technologies.

Data Source: Industry and academia submit nominations annually to EPA in response to the Presidential Green Chemistry Challenge Awards.

Methods, Assumptions, and Suitability: This is an output measure tracked directly through Office of Pollution Prevention and Toxics (OPPT) record-keeping systems. No models or assumptions or statistical methods are employed.

QA/QC Procedures: Data undergo a technical screening review by EPA before being uploaded to the database to determine whether data submitted adequately support the environmental benefits described. Subsequent to Agency screening, data is reviewed by an external independent technical expert panel. Additional comments provided by this panel are incorporated into the database. This panel is convened primarily for judging nominations submitted to the Presidential Green Chemistry Challenge Awards Program and selecting winning technologies.

Data Quality Review: Review of industry and academic data as documented in United States EPA, Office of Pollution Prevention and Toxics, Green Chemistry Program Files available at <http://www.epa.gov/opptintr/greenchemistry/>

Data Limitations: Occasionally data are limited for a given technology due to confidential business information (the Presidential Green Chemistry Challenge Awards Program does not process CBI). Occasionally, the percentage of market penetration of implemented alternative green chemistry technology (potential benefits versus realized benefits) is unclear. In these cases, the database is so noted.

Error Estimate: N/A.

New/Improved Data or Systems: None.

References: <http://www.ams.usda.gov/science/pdp/index.htm>.

FY 2004 Performance Measure: Number of participants in the Hospitals for a Healthy Environment Mercury Project

Performance Database: EPA, in cooperation with its institutional partners, operates a voluntary program whereby hospitals and associated industries can voluntarily sign up to become an H2E Partner (hospitals) or Champion (associated industries). The purpose of the H2E Program is to reduce mercury emissions and waste at hospitals.

Data Source: Sign-up forms from participating H2E institutions.

Methods, Assumptions, and Suitability: The sign-up program is the first step for a hospital or associated industry to participate in the H2E. No assumptions or models are employed.

QA/QC Procedures: H2E staff contact each participant to confirm their sign-up, and welcome them to the program.

Data Quality Reviews: N/A.

Data Limitations: Data limited to name of facility, contact person and information.

Error Estimate: N/A.

New/Improved Data or Systems: Database will be expanded after H2E receives ICR approval.

References: United States EPA Office of Pollution Prevention and Toxics, Hospitals for a Healthy Environment Program (H2E). Program information and data available at <http://www.h2e-online.org/about/index.htm>

FY 2004 Performance Measure: The number of eco-friendly laundry detergents developed.

Performance Database: Information on laundry detergent ingredients is supplied on a proprietary basis by formulator companies. Information on potential safer substitute ingredients as identified by the formulator is held proprietary as well.

Data Source: Laundry detergent manufacturers. General information on chemicals in detergent component classes; source of potential safer substitutes.

Methods, Assumptions, and Suitability: Assume that formulator companies determine performance of eco-friendly detergents.

QA/QC Procedures: Formulator companies report periodically on the status of their formulations and notify DfE in advance of potential ingredient changes.

Data Quality Reviews: N/A.

Data Limitations: N/A.

Error Estimate: N/A.

New/Improved Data or Systems: Formulator companies notify DfE of Agency-approved changes in detergent ingredients.

References: N/A.

Coordination with Other Agencies

This objective spans a broad range of pollution prevention activities, which can yield reductions in waste generation in both the public and private sectors. For example, the Environmentally Preferable Product initiative, which implements Executive Orders 12873 and 13101, is promoting the use of cleaner products by Federal agencies, which may stimulate demand for the development of such products by industry.

This effort includes a number of demonstration projects with other Federal departments/agencies, such as the General Services Administration (use of safer products for indoor painting and cleaning), Department of Defense (use of safer paving materials for parking lots), and Defense Logistics Agency (safer solvents). The program also works with the National Institute of Standards and Technology, the International Standards Organization, and other groups to develop standards for Environmental Management Systems.

In addition to business, industry and other non-governmental organizations, EPA will work with Federal, State, Tribal, and local governments to encourage reduced generation of waste as well as the safe recycling of wastes. Frequently, successful projects require multiple partners to address the multi-media nature of effective source reduction and recycling programs. The Agency has brought together a range of stakeholders to examine alternatives in specific industrial sectors, and several regulatory changes have followed which encourage hazardous waste recycling. Partners in this effort include the Environmental Council of States, the Tribal Association on Solid Waste and Emergency Response, and the Association of State and Territorial Solid Waste Management Officials.

As Federal partners, EPA and the United States Postal Service (USPS) work together on several municipal solid waste projects. For instance, rather than dispose of returned or unwanted mail, EPA and the USPS developed and implemented successful recycling procedures and markets, including the return of unwanted mail (advertisements, catalogues, etc.) to the Post Office for recycling rather than disposal by the recipient. In addition, EPA Regional offices have provided significant assistance to the National Park Service to implement Integrated Solid Waste Management Plans at parks in western states. EPA also works with the Small Business Administration to provide support to recycling businesses.

EPA has worked with the Council on Environmental Quality (CEQ) and the Federal Environmental Executive (FEE) to reinvigorate Federal leadership for sustainable recycling. In particular, the Agency is currently engaged with the Department of Defense, Department of Education, USPS, Department of Energy, the FEE, and other agencies to foster proper management of surplus electronics equipment, with a preference for reuse and recycling. With these agencies, and in cooperation with the electronics industry, EPA participated in developing

a draft interagency memorandum of understanding (MOU) which will lead to increased reuse and recycling of an array of computers and other electronics hardware used by civilian and military agencies. Implementation of this MOU will divert substantial quantities of plastic, glass, lead, mercury, silver, and other materials from disposal.

Statutory Authorities

Toxic Substances Control Act (TSCA) sections 4 and 6 and TSCA Titles II, III, and IV (15 U.S.C. 2605 and 2641-2692)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) sections 3, 4, 5, 6, 11, 18, 24, and 25 (7 U.S.C. 136a, 136a-1, 136c, 136d, 136i, 136p, 136v, and 136w)

Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)

Clean Air Act (CAA) section 309 (42 U.S.C. 7609)

Clean Water Act (33 U.S.C. 1251-1387)

Emergency Planning and Community Right-to-Know Act (EPCRA) (42 U.S.C. 11001-11050)

Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6901-6992k)

Solid Waste Disposal Act as amended by the Hazardous Waste Amendments of 1984.

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems

Objective: Assess Conditions in Indian Country

By 2005, EPA will assist all Federally recognized tribes in assessing the condition of their environment, help in building tribes' capacity to implement environmental management programs, and ensure that EPA is implementing programs in Indian country where needed to address environmental issues

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Assess Conditions in Indian Country	\$64,326.3	\$70,909.4	\$76,435.2	\$5,525.8
Environmental Program & Management	\$13,163.6	\$13,439.7	\$13,935.2	\$495.5
State and Tribal Assistance Grants	\$51,162.7	\$57,469.7	\$62,500.0	\$5,030.3
Total Workyears	98.9	90.7	91.3	0.6

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
American Indian Environmental Office	\$9,911.6	\$10,219.7	\$10,665.9	\$446.2
Facilities Infrastructure and Operations	\$1,165.4	\$1,250.3	\$1,154.4	(\$95.9)
Legal Services	\$1,383.0	\$1,428.7	\$1,470.8	\$42.1
Management Services and Stewardship	\$426.9	\$475.5	\$518.1	\$42.6
Regional Management	\$80.0	\$65.5	\$126.0	\$60.5

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Tribal General Assistance Grants	\$52,469.7	\$57,469.7	\$62,500.0	\$5,030.3

FY 2004 Request

Under Federal environmental statutes, the Agency has responsibility for assuring human health and environmental protection in Indian country. Since 1984, EPA policy has been to work with tribes on a government-to-government basis that affirms the vital trust responsibility that EPA has with every Federally recognized Tribal government. EPA endeavors to address Tribal environmental priorities, ensure compliance with environmental laws, provide field assistance, assure effective communication and consultation with tribes, allow flexibility in grant programs, and provide resources for Tribal operations.

A lack of comprehensive environmental data severely impacts our ability to properly identify risk to human health and the environment in Indian country. Progress toward building Tribal and EPA infrastructure and completing a documented baseline assessment of environmental conditions continues to be a major focus for the Agency and tribes. These baseline assessments will provide a blueprint for planning future activities through the development of Tribal/EPA Environmental Agreements (TEAs) or similar Tribal environmental plans to address and support priority environmental multi-media concerns in Indian country. In FY 2004, resources will be used to support the Baseline Assessment project, write national assessment reports, and track environmental progress in Indian country. For its part, EPA will be able to assess conditions in Indian country under a wide variety of parameters on national, regional, and local levels and make appropriate program decisions. In FY 2004, the Agency will formalize interagency data standards and protocols to ensure information is collected and reported consistently among the Federal agencies by working as the co-lead (EPA with the Department of Interior, Bureau of Indian Affairs) on the Federal Geographic Data Committee (FGDC) Tribal data workgroup. The interagency efforts of the Baseline Assessment Project will promote consistency throughout the Federal government in assessing environmental conditions in Indian country and are conducted under OMB Circular A-16.

Under the authority of the Indian Environmental General Assistance Program (GAP) Act of 1992, EPA provides grants to Tribal governments and intertribal consortia for developing the capacity to administer multi-media environmental protection programs. In FY 2004, EPA is requesting an additional \$5 million (total of \$62.5 million), which will help 45 additional tribes develop environmental programs. This includes assessing the status of a tribe's environmental condition, building an environmental program tailored to the tribe's needs, developing environmental education programs, developing solid waste management plans, assisting in the building of Tribal environmental capacity, and alerting EPA to serious conditions involving immediate public health and ecological threats.

EPA has strived to work effectively with Indian tribes since before the promulgation of its formal Indian Policy in 1984. Vital to that policy are the principles that the Agency has a

government-to-government relationship with tribes and that "EPA recognizes tribes as the primary parties for setting standards, making environmental policy decisions and managing programs for reservations, consistent with agency standards and regulations." To that end, EPA "encourage[s] and assist[s] tribes in assuming regulatory and program management responsibilities," primarily through its Treatment in the Same Manner as a State (TAS) process under several environmental statutes.

EPA's policy has been and will continue to be that tribes develop the capability to implement Federal programs themselves. However, in working with tribes, EPA has realized that TAS does not suit the needs of all tribes. Some tribes with acute pollution sources and other environmental problems may be too small to support fully delegated or approved environmental programs. Other tribes are wary of seeking TAS status because it may lead to costly litigation that may in turn lead to a diminishment of Tribal sovereignty. As a result few tribes have sought TAS under EPA's various regulatory programs. In the absence of EPA-approved Tribal programs, EPA generally faces practical challenges in implementing the Federal programs in Indian country. EPA will continue to encourage and work with tribes to develop their capability to implement Federal environmental programs.

Also, in accordance with EPA's longstanding policy, the Agency is considering additional approaches for how EPA and Indian tribes might work together to protect public health and the environment in Indian country. As part of that effort, EPA is again proposing language that would allow EPA to award cooperative agreements to Federally recognized Indian tribes or qualified Intertribal consortia to assist the Administrator in implementing Federal environmental programs for Indian tribes. These cooperative agreements would be made notwithstanding the Federal Grant and Cooperative Agreement Act requirements that Federal agencies use a contract when the principal purpose of a transaction is to acquire services for the direct benefit or use of the United States. Cooperative agreements, rather than a contract under the Federal acquisition regulation, are the preferred funding mechanism, since they better reflect the government-to-government relationship. These cooperative agreements would not be awarded using funds designated for State financial assistance agreements.

The proposed language would promote Tribal participation when EPA is directly implementing Federal environmental programs in Indian country or for tribes. It would also help tribes build the capacity to achieve TAS status if they wish to do so. While EPA would retain final decision-making authority and ultimate responsibility for all regulatory activities where EPA directly implements Federal programs, the proposed language would allow for varying degrees of Tribal involvement in assisting EPA in carrying out the Federal program depending upon a tribe's interest and ability in carrying out specific work. Some tribes might perform much of the work for EPA necessary to develop and carry out Federal environmental programs. Other tribes might gradually increase their involvement as their capacity to assist EPA increases over time. In this way, the proposed language would improve environmental protection while also building the capacity and expertise of the tribes to run their own environmental programs.

FY 2004 Change from FY 2003 Request

EPM

- There are increases for payroll, cost of living, and enrichment for new and existing FTE.

STAG

- (+\$5,030,300) Increase in Indian General Assistance Program grants to help Federally recognized tribes and intertribal consortia develop environmental programs.

GOAL: PREVENTING POLLUTION AND REDUCING RISK IN COMMUNITIES, HOMES, WORKPLACES AND ECOSYSTEMS

OBJECTIVE: ASSESS CONDITIONS IN INDIAN COUNTRY

Annual Performance Goals and Measures

Tribal Environmental Baseline/Environmental Priori

- In 2004 Percent of Tribes will have an environmental presence (e.g., one or more persons to assist in building Tribal capacity to develop and implement environmental programs.
- In 2003 In 2003, AIEO will evaluate non-Federal sources of environmental data pertaining to conditions in Indian Country to enrich the Tribal Baseline Assessment Project.
- In 2002 A cumulative total of 331 environmental assessments have been completed.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percent of Tribes with delegated and non-delegated programs (cumulative).			5%	Tribes
Percent of Tribes with EPA-reviewed monitoring and assessment occurring (cumulative).			20%	Tribes
Percent of Tribes with EPA-approved multimedia workplans (cumulative).			18%	Tribes
Environmental assessments for Tribes. (cumulative)	331			Tribes, etc.
Non-federal sources of environmental data pertaining to conditions in Indian Country.		20		Data sources

Baseline: There are 572 tribal entities that are eligible for GAP program funding. These entities are the ones for which environmental assessments of their lands will be conducted.

Program Assessment Rating Tool

Tribal General Assistance

As part of the Administration's overall evaluation of effectiveness of Government programs, the Tribal General Assistance program was evaluated with the following specific findings:

1. The program's purpose is very clear and agreed upon by interested parties. Not all tribes currently have the financial resources and technical ability to develop and implement Federal environmental programs on their own.
2. Strategic planning is the program's weakest area, and plans from 2003 and earlier had weak performance goals that focused on processes more than environmental outcomes.
3. In recognition of these weaknesses, EPA has been working to develop new long-term goals and efficiency measures.
4. The program also adopted new annual performance measures, which more accurately reflect the program's purpose and activities.
5. GAP has improved its program management over the last year. It implemented a new grants management system which provides better information on grantee activities, and it also developed a tribal database which holds environmental, cultural, and administrative information on each of the tribes.

As a result of these findings, the Administration recommends:

1. Increasing GAP funding to \$62.5 million, \$5 million above the 2003 President's Budget level of \$57 million, in recognition that program management is improving.
2. That EPA use the new information from the recently implemented grants management system to further improve the program's strategic planning and management, including the development of long-term goals and efficiency measures.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Tribes with an environmental presence.

Performance Database: An environmental presence for a tribe implies the development of the capacity to implement environmental programs: to assess environmental conditions, to establish environmental priorities, and then to manage programs that result in improvement of the environment. The American Indian Environmental Office (AIEO) has made tremendous progress in developing an electronic baseline assessment system used to access tribal environmental information and to track the progress of the development of an environmental presence in Indian country. The Tribal Information Management System (TIMS) provides the capability for each tribe to understand and effectuate program priorities to build a strong, sustainable environment for the future based upon sound, quality information.

TIMS is a web-based application used to access Baseline Assessment Project environmental information on Federally recognized Indian tribes. The site is located at <https://oasint.rtpnc.epa.gov>. Public access to this information via the web cannot be provided until EPA completes consultation with the tribes, but is expected within the next year. TIMS contains information about the condition of the environment for a tribe, the nature and status of

regulated facilities on tribal lands, and the nature and extent of tribal environmental management program activities. TIMS is not a static document. It is a real-time system that extracts information from EPA and external data systems as they are maintained and updated by various Federal, non-Federal, and tribal partners. TIMS is also a vehicle for tribes, Federal agencies and non-Federal agencies, to develop partnerships, improve communication, and to establish tribal environmental priorities in a coordinated, multimedia, and interagency way.

The outputs of TIMS serve many purposes, such as: (1) allows EPA to accurately assess the establishment of an environmental presence in Indian country in a data rich and meaningful way, and to report that result annually as a measure of performance goals; (2) allows EPA to measure trends and changes in environmental conditions and program results over time; and, (3) provides information for tribes and agencies to establish environmental priorities in a coordinated fashion.

Data Sources: Current TIMS data sources are existing Federal databases, both from EPA and other agencies, supplemented by data sources collected from the EPA regions as appropriate. All data sources are identified and referenced in the TIMS application. In FY 2003, AIEO will analyze data from 20 non-Federal data sources for enrichment of the Tribal Baseline Assessment Project. In particular, the integration of data sources from Federal, non-Federal and tribal partners will be used to assess environmental conditions and environmental vulnerabilities for Alaska Native Villages. Building upon these accomplishments, in FY 2004 we expect to formalize interagency data standards and protocols, working with the Federal Geographic Data Committee (FGDC) formed as a result of OMB Circular A-16, to ensure information is collected and reported consistently among the Federal agencies.

Methods, Assumptions and Suitability: The methodology for developing assessments of environmental conditions in Indian country will be standard statistical methods of analysis of variance. Chi Square and Fisher linear model techniques will be used to evaluate the statistical significance of comparisons of tribal conditions, with regard to specific environmental parameters, compared to the nation as a whole. The data used to develop these statistical inferences are in general non-aggregated point measurements that have been geographically indexed. Sample sizes are generally large enough (often in the hundreds of thousands when evaluating parameters such as regulated facilities) to provide the necessary degrees of freedom to make statistical inferences in spite of the large variance in sizes of reservations in Indian country. The data are suitable for year-to-year performance comparisons, and also for trend analysis. Forecasting technologies have not yet been tested on the data.

QA/QC Procedures: All the data used in the baseline project have quality assurance and metadata documentation prepared by the originating agency. These will all be described in a Quality Management document: "Manual to TIMS: Tribal Information Management System." AIEO will standardize data and metadata standards established by the Federal Geographic Data Committee.

Data Quality Reviews: Quality of the external databases will be described but not ranked. Data correction and improvement is an ongoing part of the baseline assessment project. Tribes will have the opportunity to review and comment upon their Tribal Profile. Mechanisms for adjusting data will be supplied. Errors in the tribal profile are subject to errors in the underlying data. The baseline project has developed a special site <http://db-server.tetrattech->

ffx.com/baseline/datacenter which will be used to: 1) allow direct editing and correction of text of the narrative profiles, 2) submit geographic corrections to maps and boundary files, or to submit files of different kinds of political units for analysis, and 3) submit corrections to quantitative data points, and 4) display the bibliography of documents used to compile the TIMS information system, including PDF scans of many of the documents.

Data Limitations: The largest part of the data used by the baseline assessment project has not been coded to particular tribes by the recording agency. AIEO uses new geographic data mining technologies to extract records based on the geographical coordinates of the data points. For example, if a regulated facility has latitude and longitude coordinates that place it in the boundaries of the Wind River Reservation, then it is assigned to the Arapaho and Shoshone Tribes of the Wind River Reservation. This technique is extremely powerful, because it “tribally enables” large numbers of information systems which were previously incapable of identifying tribes. This will be applied to all the EPA databases. There are limitations, however. When database records are not geographically identified with latitude and longitude, the technique does not work and the record is lost to the system. Likewise, the accuracy of the method depends on the accuracy of the reservation boundary files. EPA continues to request up-to-date and accurate coverage of reservation boundaries and land status designations from other agencies.

Error Estimate: Analysis of variation of the various coverage of reservation boundaries that are available to EPA indicates deviations of up to 5%. The other source of error comes from records that are not sufficiently described geographically for assignment to specific tribes. For some agencies, such as USGS, the geographic record is complete, so there is no error from these sources. It is estimated that 20% of the regulated facilities in EPA regulatory databases are not geographically described, and thus will not be recognized by the AIEO methodology.

New/Improved Data or Systems: The technologies used by the baseline assessment project are all new and state of the art. Everything is delivered on the Internet, with security, and no need for any special software or data disk on the desktop. The geographic interface is an ESRI product called ARC/IMS, which is a web-based application, with a fully functional GIS system that is fully scalable. In FY 2003, the entire system will be rendered in 3D. The baseline project uses XML protocols to attach to and display information seamlessly and in real time from cooperating agency data systems without ever having to download the data to some intermediate server. Finally, the baseline assessment project has developed web based, secure program inputting systems that allow regional project officers to track programs and input programmatic data that directly feed into the TIMS reports, performance reporting systems, and other customizable reports.

References:

Manual to TIMS: Tribal Information Management System (draft).

[Http://www.epa.gov/enviro/html/bia/tribal_em.html](http://www.epa.gov/enviro/html/bia/tribal_em.html)

<https://oasint.rtpnc.epa.gov/TIMS>

<http://db-server.tetrattech-ffx.comn/baseline/datacenter>

<https://oasint.rtpnc.epa.gov/TATS>

<http://gap-demo.tetrattech-ffx.com>

Coordination with Other Agencies

Solid Waste Interagency Workgroup

EPA and a large number of Agencies including the Bureau of Indian Affairs, the Indian Health Service, the Federal Aviation Administration, the National Oceanic and Atmospheric Administration, and the Departments of Housing and Urban Development, Agriculture (Forest Service and Rural Utilities Service), and Defense are working collaboratively to identify, prioritize and close solid waste dumps in Indian country. The Group is focusing on 146 of the highest priority sites from the Indian Health Service's 1997 Report to Congress, entitled "Open Dumps on Indian Lands," which contains an inventory of 1,162 open dumps in Indian country. Additional agencies are likely to participate as the workgroup further defines its goals and strategy.

Other Examples of Interagency Coordination

EPA and the Department of Interior are coordinating an Interagency Tribal Information Steering Committee that includes the Bureau of Reclamation, Department of Energy, Department of Housing and Urban Development, United States Geological Survey, Federal Geographic Data Committee, Bureau of Indian Affairs, Indian Health Service, Department of the Treasury, and Department of Justice. This Interagency effort is aimed to coordinate the exchange of selected sets of environmental, resource, and programmatic information pertaining to Indian country among Federal agencies in a "dynamic" information management system that is continuously and automatically updated and refreshed, to be shared equally among partners and other constituents.

Under a two- party interagency agreement, EPA works extensively with the Indian Health Service to cooperatively address the drinking water and wastewater infrastructure needs of Indian tribes. EPA is developing protocols with the Indian Health Service Sanitation Facilities Construction Program for integration of databases of the two agencies, within the framework of the Tribal Information Management System.

EPA has organized a Tribal Working Group in the Federal Geographic Data Committee, and, along with BIA, is the co-chair of the group. In the Tribal Working Group, EPA will play a lead role in establishing common geographic data and metadata standards for Tribal data, and for establishing protocols for exchange of information among Federal, non-Federal and Tribal cooperating partners.

EPA is developing protocols with the Bureau of Reclamation, Native American Program, for integration of databases of the two agencies, within the framework of the Tribal Information Management System. EPA is also developing agreements to share information with the Alaska District, United States Army Corps of Engineers.

Statutory Authorities

Indian Environmental General Assistance Program (GAP)

Act of 1992 as amended (42 U.S.C. 4368b)

Goal 5: Waste Management

Environmental Protection Agency
2004 Annual Performance Plan and Congressional Justification
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Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response

Strategic Goal: America's wastes will be stored, treated and disposed of in ways that prevent harm to people and to the natural environment. EPA will work to clean up previously polluted sites, restore them to uses appropriate for surrounding communities, and respond to and prevent waste-related or industrial accidents.

Resource Summary (Dollars in thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response	\$1,786,516.4	\$1,711,511.0	\$1,846,634.7	\$135,123.7
Control Risks from Contaminated Sites and Respond to Emergencies	\$1,621,875.2	\$1,544,249.8	\$1,678,154.8	\$133,905.0
Regulate Facilities to Prevent Releases	\$164,641.2	\$167,261.2	\$168,479.9	\$1,218.7
Total Workyears	4,325.4	4,500.2	4,556.6	56.4

Background and Context

Improper management of wastes can lead to serious health threats from exposure to contaminated air, soil, and water, and as a result of fires and explosions. Likewise, improper waste management and disposal can pose threats to those living in nearby communities and can result in costly cleanups. One of the Agency's strategic goals is to ensure proper waste management and disposal to protect people and the environment from unacceptable risk posed by improper waste management. In FY 2004, EPA will continue to promote safe waste storage, treatment, and disposal, cleanup active and inactive waste disposal sites, and help prevent the release of oil and chemicals, including radioactive waste, into the environment. Additionally, the Brownfields program, a top environmental priority for this Administration, will continue to sustain and develop effective partnerships with States, Tribes, and localities in order to revitalize and restore Brownfields properties. The Agency will also continue to prepare to respond to small and large-scale disasters, one of EPA's traditional responsibilities.

Means and Strategy

EPA and its partners will continue their efforts to achieve this goal by promoting better waste management, cleaning up contaminated waste sites, and preventing waste-related or industrial accidents. To date, EPA and its partners have made significant progress toward achieving its cleanup and prevention objectives that address human health and the environment at thousands of Superfund, Brownfields, Resource Conservation and Recovery Act (RCRA), underground storage tank (UST), and oil sites. Brought together by a common interest to protect our health and the environment, EPA and its partners have established an effective structure to manage the nation's hazardous and solid wastes. EPA's strategy is to apply the fastest, most effective waste management and cleanup methods available, while involving affected communities in the decision-making process. The Agency will employ enforcement efforts to further assist in reducing risks to people from hazardous waste exposure.

In FY 2004, EPA will maintain its focus on three themes in achieving its objectives:

- **Revitalization:** The Agency is moving in a new strategic direction with the broad promotion of the successes of the Brownfields program and other waste programs in restoring contaminated lands. Revitalization complements the Agency's traditional cleanup programs, leading to faster, more efficient cleanups; and benefits communities through productive economic and green space reuse of properties.
- **One Cleanup Program:** Through the "One Cleanup Program" the Agency is looking across its programs to bring consistency and enhanced effectiveness to site cleanups. The Agency will work with its partners and stakeholders to enhance coordination, planning and communication across the full range of Federal, state, Tribal and local cleanup programs. This effort will improve the pace, efficiency and effectiveness of site cleanups, as well as more fully integrate land reuse and continued use into cleanup programs. The Agency will promote development of information technologies required to present waste site cleanup and revitalization information in ways that enable greater access and understanding by the public and stakeholders. Finally, the Agency will develop environmental outcome performance measures that report progress among all cleanup programs, such as the number of acres available for reuse resulting from its site cleanup programs. A crucial element to this effort is a national dialogue, currently underway, on the future of Superfund and other EPA waste cleanup programs.
- **Recycling, Waste Minimization and Energy Recovery:** Promotion of recycling, waste minimization and energy recovery for both hazardous and non-hazardous wastes.

Revitalization

To address the theme of revitalization, EPA is requesting \$210,754,100 to continue implementation of the Small Business Liability Relief and Brownfields Revitalization and Environmental Restoration Act (Public Law 107-118). This includes an increase of \$10 million to provide assistance to states and Tribes to develop and enhance their state and Tribal response programs, a priority in the Agency's efforts to reuse and redevelop properties. Brownfields are

real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant and they are not traditional Superfund sites. Generally, Brownfields are not highly contaminated and, therefore, present lesser health risks. Economic changes over several decades have left thousands of communities with these contaminated properties and abandoned sites. This legislation promotes Brownfield redevelopment by providing financial assistance for assessment and cleanup, reforming Superfund liability, and enhancing state response programs. EPA implements the Brownfields program with other Federal agencies, states, Tribes, local governments, the private sector and non-profit organizations.

EPA is committed to integrating the concept of revitalization and reuse into the process of cleaning up abandoned, inactive and contaminated waste sites, active and closing Federal facilities, and other properties. An essential element of the assessment and cleanup of contaminated property, whether they are Brownfields, Superfund, RCRA Corrective Action, Base Realignment and Closure, Federal facilities or Underground Storage Tanks, is the ultimate goal of revitalizing and reusing that property. Assessment and cleanup provide clear environmental benefits in mitigating exposure to hazardous contaminants and reuse of these properties can improve the quality of life in America's communities and reduce sprawl. Building upon the Agency's recent successes in this area, EPA's waste cleanup programs will actively seek out opportunities to leverage public or private investment, create jobs associated with cleanup and reuse, and increase the overall acreage reused. The RCRA corrective action program continues to emphasize redevelopment of RCRA corrective action sites to prevent these properties from becoming brownfields (unused or underused property due to real or perceived concerns regarding hazardous waste contamination).

Superfund

The Superfund program works with States, Tribes, local governments, and other Federal agencies to protect human health and the environment and to restore sites to uses appropriate for nearby communities. Many of the nation's largest and most technically complex contaminated properties including abandoned, private, and Federal facilities are cleaned up by the Superfund program. Site assessment is the first step in determining whether a site meets the criteria for placement on the National Priorities List (NPL) or for removal action to prevent, minimize or mitigate significant threats. When a site is placed on the NPL it becomes eligible for a fund-financed cleanup. The Agency also provides outreach and education to the surrounding communities to improve their understanding of potential site risks, such as risks posed by radioactive materials, and to promote direct involvement in every phase of the cleanup process.

The Administration has conducted a Program Assessment Rating Tool (PART) evaluation of the Superfund removal program. While the program initiates and cleans up numerous sites around the country every year, the benefit to human health and the environment could not be clearly measured. EPA and the Office of Management and Budget (OMB) will continue to develop outcome measures that test the link between the activities of the program and their impact on human health and the environment.

RCRA Corrective Action

The RCRA corrective action program addresses a significant number of industrial sites, including Federally-owned facilities. Administered by EPA and authorized states, these sites include some of the most intractable and controversial cleanup projects in the country. Approximately 3,500 industrial facilities must undergo a cleanup under the RCRA program. Of these facilities, EPA and state partners have identified over 1,700 facilities as high priority because people or ecosystems are likely to be at significant current or future risk. As evidence of success in meeting this challenge, EPA and the states have now documented that both exposure to contamination and further migration of contaminated groundwater have been controlled at over 700 of the 1,700 high priority facilities. The RCRA program has fully embraced the Agency's One Cleanup Program initiative designed to improve cross-program coordination between EPA and states to make protective cleanup and revitalization of contaminated sites more effective and efficient.

Underground Storage Tanks

In partnership with the states, the Agency prevents releases, detects releases early in the event that they occur, and addresses leaks from Federally regulated underground storage tanks (USTs) containing petroleum and hazardous substances. The strategy for preventing, detecting releases, and addressing leaks is to promote and enforce petroleum management controls through compliance and technical assistance with the regulatory requirements in order to protect our nation's groundwater and drinking water. In 2004, the Agency will celebrate the 20th anniversary of the enactment of RCRA Subtitle I, acknowledging the problem of leaking underground storage tanks and the beginning of the Federal UST program. While the vast majority of the approximately 698,000 active USTs have the proper equipment per Federal regulation, significant work remains to be done to ensure UST owners and operators properly maintain and operate their systems. The Agency's primary role is to work with states to promote compliance with the leak detection, spill, overfill, and corrosion protection requirements, ensure that compliance with these requirements are a national priority, and reduce the number of confirmed UST releases. This encompasses compliance for all Federally regulated UST systems, including those on private and public property, in Indian Country, and Federal facilities. The Agency has primary responsibility for implementing the UST program in Indian Country.

The Leaking Underground Storage Tank (LUST) program will continue to work with the states and the regulated community to promote rapid and effective responses to releases from USTs containing petroleum. EPA plays a key role in implementing the national LUST program, supporting the management of state, local, and Tribal enforcement and response capability, as well as sharing lessons learned with state regulators and the regulated community to increase cleanup accomplishments. The Agency's highest priority in the LUST program over the next several years is to address approximately 143,000 cleanups that have yet to be completed. EPA's LUST program will accomplish this by implementing innovative approaches to corrective action, such as multi-site cleanup agreements and performance-based contracting. The LUST program will continue to help states address fuel oxygenates, such as methyl-tertiary-butyl-ether (MTBE) contamination and tertiary butyl alcohol (TBA). States are discovering these contaminants increasingly, and are concerned about the unique and often difficult remediation

challenges. The Agency will also continue to work with other Federal partners and states to help communities set priorities for addressing petroleum high priority sites.

In an effort to make every environmental dollar count, the Administration has conducted a PART evaluation of the LUST program. The tool showed that EPA was quickly cleaning up the backlog of leaking tanks, but that the benefit to human health and the environment could not be clearly measured. Just as with the Superfund program, EPA and OMB will continue to develop outcome measures that test the link between the activities of the program and their impact on human health and the environment.

Recycling, Waste Minimization, and Energy Recovery

In support of the recycling, waste minimization, and energy recovery theme, the RCRA program will focus on minimizing risk by advancing the nation's ability to manage materials and waste in an environmentally sound and cost-effective manner. The fundamental goal of RCRA is the recovery and conservation of energy and materials that would otherwise be discarded. However, industrial secondary materials largely remain untapped resources for such recovery. In 2004, the Resource Conservation Challenge (RCC) will provide greater regulatory flexibility and promote opportunities for converting waste to future energy and focus on resource conservation through efficient materials management. EPA will continue its comprehensive review of its waste management programs and regulations regarding hazardous and non-hazardous waste recycling, waste minimization, and energy recovery practices. The review will identify opportunities to further the goal of resource conservation and recovery, while remaining true to the mission of ensuring safe and protective waste management practices. These efforts will include increased beneficial use of the over 100 million tons of coal combustion residues produced each year - saving resources and reducing green house gas emissions. The Agency will also be looking to obtain energy from wastes through a variety of mechanisms: gas generation at bioreactor municipal landfills, waste gasification, and co-firing of wastes in power generation units. In addition, the Agency will partner with industry to identify innovative methods for recovering petroleum and reducing waste in the refinery industry.

Other elements of the Better Waste Management goal are associated with the promotion of safe waste management practices, which serve to help avoid future cleanup and redevelopment burdens. For facilities that currently manage hazardous wastes, EPA and the authorized states help ensure human health and environmental protection through the issuance of RCRA hazardous waste permits. The RCRA program works primarily through state partners to reduce the risks of exposures to dangerous hazardous wastes by maintaining a "cradle-to-grave" waste management framework. Under this framework, EPA and the states oversee the handling, transport, treatment, storage, and disposal of hazardous waste. To date, 48 states, Guam, and the District of Columbia are authorized to issue permits.

In FY 2004, EPA will continue efforts to reassess hazardous waste regulations applicable to priority sectors and processes, such as process wastewater and other waste treatment residues. The goals will be to determine if current hazardous waste listings provide the correct level of protection and whether less costly, more efficient management approaches that provide equivalent protection of human health and the environment exist.

Chemical Emergency Preparedness and Prevention

The Agency's chemical emergency preparedness and prevention program addresses some of the risks associated with the manufacture, transportation, storage and use of hazardous chemicals to prevent and mitigate chemical releases. The program also implements right-to-know initiatives to inform the public about chemical hazards and encourages actions at the local level to reduce risk. Section 112(r) of the Clean Air Act requires an estimated 15,000 facilities to develop comprehensive risk management plans (RMPs) and submit them to EPA, state agencies, and Local Emergency Planning Committees. States are best suited to implement the RMP program because they benefit directly from its success.

Oil Spill Program

The Oil Spill Program prevents, prepares for, responds to, and monitors oil spills as mandated and authorized in the Clean Water Act and Oil Pollution Act of 1990. EPA protects U.S. waterways through oil spill prevention, preparedness, and enforcement compliance. There are 465,000 non-transportation-related oil storage facilities that EPA regulates. When necessary, the Agency undertakes oil spill response in the inland zone, which is then funded through a reimbursable agreement with the U.S. Coast Guard.

Tribes and Alaska Native Villages

Finally, the Agency has established performance objectives specific to Indian Tribes and Alaska Native Villages. These objectives stress waste prevention and cleanup and assistance to Tribes. To meet these objectives, EPA will identify Tribal needs, support and promote the involvement of Tribes in implementation activities, and control risks in Indian Country through assessment and clean up of contaminated sites in consultation and partnership with Tribes.

Homeland Security

Responding to small and large-scale disasters is one of EPA's traditional responsibilities. The Agency's crucial role in responding to the World Trade Center and Pentagon attacks, and the decontamination of anthrax at Capitol Hill, have further defined the nation's expectations of EPA's emergency response capabilities. The Agency will continue to play a unique role in responding to and preparing for future terrorist incidents, which could possibly be more devastating in scale and nature than those of September 11, 2001. Potential future terrorist events could affect the lives of millions of Americans and devastate the economy. The FY 2004 President's Budget includes targeted investments to strengthen the Agency's readiness and response capabilities, including the establishment of a "decontamination team," state-of-the-art equipment and highly specialized training for On Scene Coordinators (OSCs).

Research

The FY 2004 waste research program supports the Agency's objective of reducing or controlling potential risks to human health and the environment at contaminated waste sites by accelerating scientifically-defensible and cost-effective decisions for cleanup at complex sites,

mining sites, marine spills, and Brownfields in accordance with CERCLA.

The Agency will conduct research to: 1) provide improved methods and dose-response models for estimating risks from complex mixtures contaminating soils and groundwater; 2) provide improved methods for measuring, monitoring, and characterizing complex waste sites in terms of soils and groundwater; 3) develop more reliable technologies for cleanup of contaminated soils, groundwater, and sediments; and 4) determine the effects of contaminants on the environment. In addition, EPA will conduct research as well as provide guidance and technical support for Federal, state and local governments and other institutions in the area of building decontamination.

Waste identification, waste management, and combustion constitute the three major areas of research under Resource Conservation and Recovery Act (RCRA) in FY 2004, as the Agency works towards preventing releases through proper facility management. Waste identification research will focus on multimedia, multi-pathway exposure modeling and environmental fate and transport; physical estimation in support of risk-based exemption levels for wastes; development of targeted exemptions of waste streams that do not pose unacceptable risks; and efforts to streamline the waste de-listing process. These efforts could significantly reduce compliance costs while still supporting EPA's mission to protect human health and the environment. Waste management research will focus on developing more cost-effective ways to manage/recycle non-hazardous wastes and will examine other remediation technologies, while combustion research will continue to focus on characterizing and controlling emissions from bioreactors and industrial combustion systems.

Several mechanisms are in place to ensure a high-quality waste research program at EPA. The Research Strategies Advisory Committee (RSAC) of EPA's Science Advisory Board (SAB), an independent chartered Federal Advisory Committee Act (FACA) committee, meets annually to conduct an indepth review and analysis of EPA's Science and Technology account. The RSAC provides its findings to the House Science Committee and sends a written report on the findings to EPA's Administrator after every annual review. Moreover, EPA's Board of Scientific Counselors (BOSC) provides counsel to the Assistant Administrator for the Office of Research and Development (ORD) on the operation of ORD's research program. Also, under the Science to Achieve Results (STAR) program all research projects are selected for funding through a rigorous competitive external peer review process designed to ensure that only the highest quality efforts receive funding support. Our scientific and technical work products must also undergo either internal or external peer review, with major or significant products requiring external peer review. The Agency's Peer Review Handbook (2nd Edition) codifies procedures and guidance for conducting peer review.

Strategic Objectives

- Control Risks from Contaminated Sites and Respond to Emergencies
- Regulate Facilities to Prevent Releases

Highlights

In FY 2004, EPA and state cleanup actions will help protect human health by reducing the effects of uncontrolled releases on local populations and sensitive environments. The Agency will build on past successes in cleaning up sites. The following accomplishments provide examples of what has been done by the Agency to achieve its goal:

- conducted over 7,300 removal response actions from 1982 through December 29, 2002;
- completed clean up construction at 846 Superfund National Priorities List Sites through December 29, 2002;
- over 800 of approximately 1,700 high priority RCRA sites targeted for aggressive risk reduction have met GPRA Environmental Indicator goals;
- 79% of approximately 2,750 hazardous waste management facilities have effective controls in place;
- responded to or monitored 300 oil spills in a typical year;
- completed 284,602 cleanups of confirmed releases from Federally-regulated leaking underground storage tanks since 1987;
- assessed over 44,400 potential Superfund sites through December 29, 2002;
- removed more than 33,100 sites from the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) waste site list;
- secured approximately \$20.6 billion in PRP commitments, through response and cost recovery settlements, over the life of the Superfund program;
- resolved potential liability of 27,000 small volume waste contributing parties through more than 500 de minimis settlements;
- awarded 50 UST field pilots to states and/or tribes through cooperative agreements to assess and cleanup abandoned or underutilized Federally-regulated leaking underground storage tanks to prepare these sites for subsequent revitalization.
- five ongoing RCRA Brownfields Prevention Pilots; and
- awarded 437 Brownfields assessment grants, over 143 Brownfields cleanup revolving loan fund grants, and 57 job training grants through December 2002.

In FY 2004, EPA's goal is to complete construction at 40 private and Federal Superfund sites and take action to address contamination at 350 sites using removal authorities. In addition, EPA and its partners will make final site assessment decisions on 475 additional sites.

EPA is requesting a funding increase of \$150 million for Superfund cleanup construction. These resources will allow cleanup construction to begin at 10 to 15 additional sites that otherwise would not be funded. Priority for funding will be given to projects at sites where actual or potential human exposures to contaminants are not controlled, and at sites where EPA can achieve construction completion during FY 2005 and 2006.

In FY 2004, the Superfund redevelopment initiative will facilitate the return of additional Superfund sites to productive reuse. To date over 330 Superfund sites have been recycled for numerous purposes. At these sites, more than 60,000 acres are now in ecological or recreational use. Approximately 15,500 jobs, representing approximately \$500 million in annual income, are located at sites that have been recycled for commercial use.

Through the Federal Oil Spill Program, EPA will continue to prevent, respond to, and monitor oil spills that occur in the waters of the United States and adjoining shorelines. Over 24,000 spills are reported annually while approximately half are in the inland zone, which is under EPA's jurisdiction. EPA typically responds to and monitors the work of responsible parties at approximately 300 significant spills a year. To reduce the risk of hazardous exposure to people and the environment, the Agency aims to prevent oil spills from occurring, prepare for oil spills that do occur, and respond to and monitor spills when necessary.

EPA played a crucial role in response to the terrorist attacks of September 11, 2001, particularly, through its emergency response program. In FY 2004, the Agency will improve its ability to respond effectively to terrorist-related chemical, biological, and radiological incidents. These enhancements will be achieved through continued improvement of national coordination and decision-making for large-scale incidents; improved field response capabilities in EPA Regions through better-trained responders and improved specialized equipment; improved capabilities of National Response System (NRS) special forces such as the Environmental Response Team (ERT) and the National Decontamination ("Decon") Team; and improved coordination with and enhancement of other response agencies.

Reducing chemical accidents is vital to ensure that communities are not exposed to hazardous materials. The Agency continues its efforts to help states and Local Emergency Planning Committees implement the risk management plan (RMP) program. EPA continues to make steady progress in this area and in FY 2004, it will delegate the program to eight additional states for a cumulative total of twenty. To reach this goal, EPA will provide technical assistance grants, technical support, outreach, and training to state and local emergency planning committees. Through these activities, states, local communities and individuals will be better prepared to prevent and prepare for chemical accidents.

The EPA Brownfields program coordinates a Federal, state, Tribal, and local government approach to assist in addressing environmental site assessment and cleanup. In FY 2004 the Brownfields program will provide \$29 million in funding and technical support for 126

assessments. These assessments provide states (including U.S. territories), political subdivisions (including cities, towns, and counties), and Federally recognized Tribes with necessary tools, information, and strategies for promoting a unified approach to environmental site assessment, characterization, and redevelopment. In addition, the Agency and its Federal partners will continue to support the existing 28 showcase communities which serve as models to demonstrate the benefits of interagency cooperative efforts in addressing environmental and economic issues related to Brownfields. The showcase communities capitalize on a multi-agency partnership designed to provide a wide range of support depending on the particular needs of each community. The Agency will continue to provide technology support to localities, states and Tribes to ensure that the most efficient and effective technologies are used for Brownfields site assessment, cleanup, and monitoring.

EPA will use approximately \$30.3 million for the assessment and cleanup of abandoned underground storage tanks (USTs) and other petroleum contamination found on Brownfields properties. With these funds, EPA will support assessment and cleanup of petroleum contamination in 50 Brownfields communities.

To further enhance a community's capacity to respond to Brownfields redevelopment, the Agency will also provide \$41.5 million in funding to capitalize Brownfields Cleanup Revolving Loan Funds (BCRLF) and cleanup grants for 70 communities. All communities with Brownfields properties are eligible to apply.

The Agency will also provide \$60 million for states and Indian Tribes to establish or enhance their voluntary response programs. Legislation also permits the recipients to capitalize revolving loan funds, purchase insurance or develop risk sharing pools, or indemnity pools, under state response program.

To augment the communities' capacities to clean up Brownfields sites, EPA will fund 12 job training grants for community residents and will provide \$3 million to the National Institute of Environmental Health Sciences (NIEHS) to supplement its minority worker training programs that focus on Brownfields workforce development activities. This will result in a cumulative total of 79 job-training grants, resulting in the training of almost 1,200 participants since 1998 and an annual average of 65% job placement.

In addition, EPA will continue to explore connections between RCRA low-priority corrective action efforts and cleanup of brownfields properties.

In FY 2004, 180 additional high priority RCRA facilities will have current human exposures under control and 150 additional high priority RCRA facilities will have migration of contaminated groundwater under control. To achieve these environmental indicators, the Agency has improved the pace of cleanups by carrying out a series of administrative reforms including piloting innovative approaches, connecting communities to cleanups and reducing delays in the review of cleanup workplans. The reforms successfully established an environment for program implementers to be innovative and results-oriented by promoting faster, focused, more flexible cleanups. The Agency developed these reforms with input from states, industry and environmental organizations to accomplish the following objectives: pilot innovative

approaches; accelerate the changing culture; connect communities to cleanups; and capitalize on redevelopment potential.

In FY 2004, the RCRA hazardous waste permits program will have permits or other approved controls in place for 79% of the hazardous waste management facilities (out of a baseline of approximately 2,750 facilities). Securing approved controls in place at facilities minimizes the threat of exposure to hazardous substances because the RCRA program's comprehensive framework regulates the handling, transport, treatment, storage, and disposal of hazardous waste. In addition, the program is in the early stages of developing an electronic media component, which would complement the proposed standardized permit process. E-permitting will expedite and simplify the permitting process and provide better public access to permitting information.

As the maximum achievable control technology (MACT) standards for hazardous waste incinerators and kilns are implemented, emissions of dioxins, furans, toxic metals, acid gases and particulate matter from these sources will be reduced. These efforts are intended to further reduce the indirect exposure to hazardous constituents in emissions, especially to children. In 2001 the D.C. Circuit Court of Appeals vacated the Phase I MACT standards. In response to this action, EPA agreed to issue replacement standards for the Phase I facilities by June 14, 2005. In addition, in a separate action, EPA agreed to finalize emission standards for the Phase II facilities (hazardous waste burning boilers and hydrochloric acid production furnaces) by the same date.

Based on EPA's minimum national standards for municipal solid waste (MSW), states regulate landfill practices. The Agency worked with states to review the national standards. The Agency is currently initiating regulatory revisions to provide additional flexibility so that compliance is less costly and easier to achieve.

The ability of EPA's LUST program to meet cleanup performance goals has become more difficult because states are overseeing the cleanup of more complicated sites. Methyl-tertiary-butyl-ether (MTBE) contamination of releases from Federally regulated underground storage tanks is a significant contributor to hindering the completion of LUST cleanups. For example, MTBE contamination has already closed down public water systems, complicating and retarding the cleanup of LUST sites in Santa Monica, California; Long Island, New York; Pascoag, Rhode Island; and Hopkins, South Carolina. EPA has provided technical and financial support to these sites in order to identify lessons learned that could be used at other MTBE contaminated sites nationwide.

In FY 2004, the Agency will continue to provide funds to states for pilots to address the cleanup of complicated sites (e.g., those contaminated with MTBE or other oxygenates). To date, the Agency's criteria for providing funding has included the risk posed, the need, and the extent of the problem. The existing pilots were chosen because they have multiple sources and widespread contamination, are complicated to remediate; have affected entire community drinking water supplies, and the lessons learned will help other states nationwide. Sites contaminated with MTBE are often more complicated, difficult, time-consuming, and expensive to assess and remediate than sites contaminated only with petroleum hydrocarbons. Reasons for this include:

- MTBE typically creates longer plumes than petroleum hydrocarbons, they typically "dive" beneath the water table;
- MTBE is less amenable to conventional remediation/treatment technologies used for petroleum hydrocarbons because multiple technologies often must be combined and regular operation and maintenance conducted more frequently;
- MTBE plumes are resistant to biodegradation in most subsurface environments which can significantly extend remediation timeframes and may force the use of more expensive remediation/treatment technologies;
- In many instances, MTBE plumes aren't discovered until a drinking water supply has been impacted. Often alternate water supplies are necessary (which are expensive) and remediation/treatment is more expensive and time-consuming because the contaminated area is so large; and
- Degradation products of MTBE (e.g., TBA, and TBF) are themselves toxic and must be remediated/treated as well.

The Agency aims to promote LUST cleanups and reduce the backlog of 143,000 releases for which cleanups have not been completed. The Agency will continue to perform its oversight responsibilities, strengthen partnerships among stakeholders, and provide technical assistance and training to improve and expedite corrective action at LUST sites. The Agency will also identify and foster the implementation of innovative approaches, such as multi-site cleanup agreements and performance-based contracting to achieve its LUST program objectives. UST owners and operators undertake nearly all cleanups under the supervision of state or local agencies. The Agency oversees these activities in Indian Country. Better oversight and quicker action can reduce the costs of cleaning up MTBE contamination, which can cost up to 100% more than a cleanup involving the typical gasoline contaminants. In turn fewer communities and individuals, including those in Indian Country, will lose their drinking water supplies.

Research

In FY 2004, contaminated sites research will be conducted to: 1) reduce uncertainties associated with soil/groundwater sampling and analysis; 2) reduce the time and cost associated with site characterization and site remediation activities; 3) evaluate the magnitude of the risks posed by contaminants to human health and the ecosystem as well as the contributions of multiple exposure pathways, the bioavailability of absorbed contaminants and treatment residuals, and the toxicological properties of contaminant mixtures; and 4) develop and demonstrate more effective and less costly remediation technologies involving complex sites and hard-to-treat wastes. The Superfund Innovative Technology Evaluation (SITE) program fosters the development and use of lower cost and more effective characterization and monitoring technologies and risk management remediation technologies for sediments, soils, and groundwater. Other proposed work will enhance and accelerate current contaminated sediments research efforts, providing the data needed to make and support crucial decisions on high impact and high visibility sites.

Waste management research in FY 2004 will work to advance the multimedia modeling and uncertainty/sensitivity analyses methodologies that support core RCRA program needs as well as emerging RCRA needs in resource conservation. Additionally, waste management research will be conducted to improve the management of both solid and hazardous wastes. New research on ground-water surface-water (gw/sw) interactions will also be initiated in FY 2004.

External Factors

There are a number of external factors that could substantially impact the Agency's ability to achieve the outlined objectives under this goal. These include reliance on private party response and State partnerships, development of new environmental technology, work by other Federal agencies, and statutory barriers.

The Agency's ability to achieve its goals for Superfund construction completion is to a limited extent dependent upon the performance of cleanup activities by other Federal agencies, such as the Department of Defense (DOD) and the Department of Energy (DOE). In addition to the construction completion goal, the Agency must rely on the efforts of DOD and DOE to establish and maintain the Restoration Advisory Boards (RABs)/Site Specific Advisory Boards (SSABs). RABs and SSABs provide a forum for stakeholders to offer advice and recommendations on the restoration of Federal Facilities. There are other EPA goals that rely on activities with other entities, such as PRP negotiations and agreements with states and Tribes.

For the RCRA program, the Agency's ability to achieve its release prevention and cleanup goals is heavily dependent on state participation. In most cases, states have received authorization (hazardous waste management program) or approval (municipal solid waste landfill permit program) and are primary implementers of these programs. As such, EPA relies on states to perform many of the activities needed to achieve these targets. State programs are also primarily responsible for implementing the UST/LUST program. The Agency's ability to achieve its goals is dependent on the strength of state programs and state funding levels. The Agency will build upon its commitment to provide states and Tribes with technical support and incentives to meet national LUST cleanup targets. Technical support and incentives range from promoting multi-site cleanup agreements, conducting MTBE cleanup pilots, developing a MTBE clearinghouse, and providing other tools, such as performance-based contracting, to help states and Tribes achieve faster, less expensive, and more effective LUST cleanups.

For the risk management program, the Agency recognizes that accident prevention and preparedness are inherently local activities. To succeed, the program relies upon the commitment and accomplishments of the various stakeholders, including industry and State and local governments. EPA's success under the RMP will depend upon the willingness and ability of stakeholders to deliver on the commitments and obligations in their plans.

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response

Objective: Control Risks from Contaminated Sites and Respond to Emergencies

By 2005, EPA and its Federal, state, Tribal, and local partners will reduce or control the risk to human health and the environment at more than 374,000 contaminated Superfund, RCRA, underground storage tank (UST), and brownfield sites and have the planning and preparedness capabilities to respond successfully to all known emergencies to reduce the risk to human health and the environment.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Control Risks from Contaminated Sites and Respond to Emergencies	\$1,621,875.2	\$1,544,249.8	\$1,678,154.8	\$133,905.0
Environmental Program & Management	\$63,576.3	\$90,696.0	\$94,193.0	\$3,497.0
Hazardous Substance Superfund	\$1,435,160.2	\$1,166,199.3	\$1,290,677.9	\$124,478.6
Leaking Underground Storage Tanks	\$75,320.9	\$70,100.2	\$70,450.7	\$350.5
Oil Spill Response	\$907.0	\$909.9	\$915.0	\$5.1
Science & Technology	\$11,821.6	\$5,931.3	\$9,468.7	\$3,537.4
State and Tribal Assistance Grants	\$35,089.2	\$210,413.1	\$212,449.5	\$2,036.4
Total Workyears	3,570.5	3,699.8	3,765.0	65.2

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Assessments	\$76,472.9	\$76,236.3	\$77,066.8	\$830.5
Brownfields	\$97,632.7	\$200,000.0	\$210,754.1	\$10,754.1
Capacity Building	\$725.1	\$652.6	\$0.0	(\$652.6)
Civil Enforcement	\$612.2	\$582.1	\$575.4	(\$6.7)
Compliance Assistance and Centers	\$670.0	\$689.8	\$586.5	(\$103.3)
Congressionally Mandated Projects	\$8,815.0	\$0.0	\$0.0	\$0.0
Disaster Management Initiative	\$0.0	\$0.0	\$1,500.0	\$1,500.0
Facilities Infrastructure and Operations	\$51,634.9	\$45,816.0	\$46,606.2	\$790.2
Federal Facilities	\$31,206.5	\$31,915.5	\$32,744.2	\$828.7
Federal Facility IAGs	\$8,779.8	\$9,091.7	\$9,653.6	\$561.9
Federal Preparedness	\$9,849.3	\$9,883.0	\$10,105.1	\$222.1
Hazardous Substance Research:Hazardous Substance Research Centers	\$4,576.8	\$4,599.2	\$4,603.5	\$4.3
Hazardous Substance Research: Superfund Innovative Technology Evaluation (SITE)	\$6,501.0	\$6,545.0	\$6,572.6	\$27.6
Homeland Security-Critical Infrastructure Protection	\$320.0	\$0.0	\$0.0	\$0.0
Homeland Security-Preparedness, Response and Recovery	\$43,105.4	\$85,710.4	\$38,197.3	(\$47,513.1)
Homeland Security-Protect EPA Personnel/Infrastructure	\$180.0	\$600.0	\$600.0	\$0.0
Homestake Mine	\$0.0	\$8,000.0	\$0.0	(\$8,000.0)
LUST Cleanup Programs	\$10,067.4	\$10,285.4	\$10,581.0	\$295.6
Leaking Underground Storage Tanks (LUST)Cooperative Agreements	\$59,331.9	\$58,341.2	\$58,399.1	\$57.9
Legal Services	\$4,610.7	\$5,077.4	\$5,219.5	\$142.1
Management Services and	\$28,131.8	\$29,308.4	\$30,807.5	\$1,499.1

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Stewardship				
Other Federal Agency Superfund Support	\$10,676.0	\$10,676.0	\$10,676.0	\$0.0
Planning and Resource Management	\$0.0	\$0.0	\$5,000.7	\$5,000.7
RCRA Corrective Action	\$38,262.3	\$38,965.2	\$41,107.4	\$2,142.2
RCRA State Grants	\$31,913.1	\$31,913.1	\$31,949.5	\$36.4
Radiation	\$14,623.5	\$14,899.8	\$16,544.6	\$1,644.8
Regional Management	\$1,467.0	\$1,452.5	\$3,105.9	\$1,653.4
Research to Support Contaminated Sites	\$29,896.9	\$28,121.1	\$28,275.3	\$154.2
Superfund - Cost Recovery	\$29,597.5	\$30,375.9	\$31,058.6	\$682.7
Superfund - Justice Support	\$28,150.0	\$28,150.0	\$28,150.0	\$0.0
Superfund - Maximize PRP Involvement (including reforms)	\$82,181.5	\$84,396.9	\$89,471.3	\$5,074.4
Superfund Remedial Actions	\$484,659.8	\$489,355.0	\$645,053.6	\$155,698.6
Superfund Removal Actions	\$202,654.0	\$202,610.3	\$203,189.5	\$579.2

FY 2004 Request

Leaking Underground Storage Tanks

In partnership with states and Tribes, the goal of the Leaking Underground Storage Tank (LUST) program is to promote better, faster, and less expensive cleanups while encouraging those states and communities plagued with high priority LUST sites to return those properties to productive and appropriate reuse. The LUST program addresses the threat to groundwater from Federally regulated leaking underground storage tanks that contain petroleum or hazardous substances. Underground Storage Tank (UST) owners and operators undertake nearly all corrective actions under the supervision of state or local agencies. The Agency oversees these activities in Indian Country.

In FY 2004, the Agency's goal is to complete 21,000 cleanups under the supervision of EPA and its state, local and Tribal partners. The Agency will also continue to encourage the return of Federally regulated, high priority LUST sites to productive reuse. The LUST program requires that UST owners and operators take appropriate measures to clean up releases. In recent years, contamination from oxygenates, such as the petroleum additive methyl tertiary butyl ether (MTBE), has posed unique and significant challenges for the LUST Program. In FY 2004, the Agency plans to continue to assess the impact of MTBE and other oxygenates' contamination on

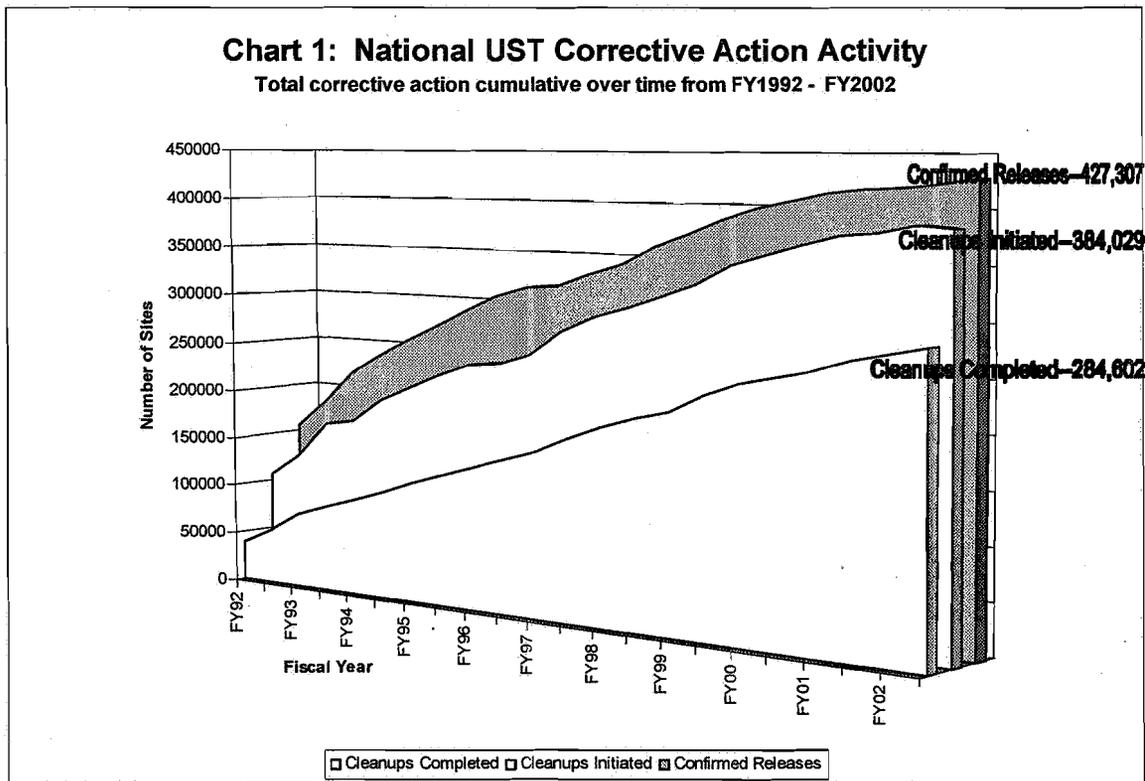
the cost and duration of cleanup efforts. This assessment will enable the Agency to more effectively address the complex nature of groundwater and MTBE contamination cleanup efforts.

One of the Agency's highest priorities in the LUST program over the next several years is to address approximately 143,000 cleanups that have yet to be completed. A vast number of these releases are contaminated with fuel oxygenates, such as tertiary butyl alcohol (TBA) and MTBE which, if not addressed rapidly, move quickly through soil and can easily contaminate groundwater and drinking water. For example, the growing problem with MTBE contamination closed down public water systems in Santa Monica, California; Long Island, New York; Pascoag, Rhode Island; and Hopkins, South Carolina. MTBE contamination is also a serious concern in Indian Country where there is more reliance on groundwater as a source for drinking water. Many cleanups, which involve groundwater and MTBE contamination, result in more complex, costly, and time-consuming cleanups. In FY 2004, the Agency will continue to provide funds to address the cleanup of more complicated sites (e.g., those contaminated with MTBE or other fuel oxygenates). Lessons learned from these pilots will be shared with other state and Tribal regulators, responsible parties and communities facing similar problems.

The Agency will continue to promote the completion of LUST cleanups in order to reduce the national backlog of 143,000 releases remaining to be cleaned up. EPA will continue to perform its oversight responsibilities, strengthen partnerships among stakeholders, and provide technical assistance and training to improve, make more cost effective and expedite corrective action at LUST sites. The Agency will also identify and foster the implementation of innovative approaches such as multi-site agreements and performance-based contracting to achieve its LUST program objectives.

The LUST Program will also help to advance EPA's One Cleanup Initiative of fostering land use decisions early in the cleanup process. Furthermore, the Senior Cleanup Council, comprised of upper-level EPA and state managers representing all cleanup programs, plans to continue its work to address policy and implementation issues that will streamline and improve consistency among all cleanup programs.

To address these LUST sites and to help states make more efficient use of their resources, including state funds that reimburse some UST owners and operators for a portion of their cleanup costs, the Agency will fund cooperative agreements under which states oversee cleanups by UST owners and operators. In cases where the responsible owner or operator is unknown, unwilling, or unable to clean up releases, LUST resources are available to pay for this activity. Remediation technologies will need to advance in order to address new contaminants, such as MTBE, more effectively. As substitutes are sought for MTBE and other fuel oxygenates, and as the composition of gasoline changes in response to changing engine performance requirements, states will face the continuing challenge of training new staff in new remediation and site investigation technologies.



The Agency has the primary responsibility for implementing the LUST program in Indian Country. EPA oversees and conducts site assessments and remediation, in part, through a national LUST contract designed specifically for Indian Country. Through the end of September 2002, there were 1,043 confirmed releases, 914 cleanups initiated, and approximately 573 cleanups completed. The Agency estimates that cleaning up all known and yet-to-be-discovered releases in Indian Country will take several years.

Superfund

The Superfund program addresses contamination from uncontrolled releases at Superfund hazardous waste sites that may threaten human health, the environment, and the economic vitality of local communities. Superfund sites with contaminated soils, sediment, and groundwater exist nationally in a large number of communities. Many of these sites are located in urban areas, are accessible by children, and expose the population to contamination. Once contaminated, groundwater, sediments, and soils may be extremely difficult and costly to clean up. Some sites will require decades to clean up because of their complexity and for some sites, removing or destroying all of the contamination is not possible. Residual contamination at these sites will need to be managed on site, creating a need for long-term stewardship.

To protect human health and the environment and address potential barriers to redevelopment, EPA works with states, Indian tribes, and other Federal agencies to: 1) assess sites and determine whether they meet the criteria for Federal Superfund response actions; 2) prevent, minimize or mitigate significant threats at Superfund sites through removal actions; 3) generate accurate risk assessment and cost-performance data critical to providing the technical

foundation for decisions made in environmental cleanup programs; 4) complete remedial cleanup construction at sites listed on the NPL; 5) control human exposures and the migration of contaminated groundwater at NPL sites, 6) develop technologies for cost-effective characterization and remediation; 7) ensure long-term protectiveness of remedies by overseeing operations and maintenance and conducting five-year reviews; 8) enhance the role of states and Indian tribes in the implementation of the Superfund program; 9) work with the surrounding communities to improve their direct involvement in every phase of the cleanup process and their understanding of potential site risk; 10) continue progress of cleanups while increasing consistency with other EPA cleanup programs; and 11) promote reuse and redevelopment of Superfund sites.

EPA's efforts to address uncontrolled releases at Superfund sites begin when states, Indian tribes, citizens, other Federal agencies, or other sources notify EPA of a hazardous waste site or incident. EPA confirms this information and places sites requiring Federal attention in the Agency's Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) database (in the case of Federal facilities, sites are placed on the Federal facility hazardous waste docket). EPA assesses these sites to determine whether Federal action is needed. In most cases, EPA makes a determination that no further Federal action is required. These sites are removed from the inventory. If warranted, EPA may refer sites removed from its inventory to state or Tribal environmental authorities for further attention. For those sites requiring additional action to protect public health and the environment, EPA seeks the course of action best suited for the individual site. Sites posing immediate risks may be addressed under removal authority. EPA may defer response at sites with ongoing state action. In some instances, potentially responsible parties enter into agreements with EPA to evaluate or clean up sites prior to listing on the NPL. In such cases, where cleanup is progressing in a timely and protective manner or is completed prior to final listing, listing on the NPL may be unnecessary. Some sites may be addressed under both removal and remedial authorities when, for example, early removal action is taken to address immediate risks at sites on the NPL. As a matter of policy, EPA seeks a concurrence from a governor before listing a site on the NPL.

EPA undertakes removals to prevent, reduce or mitigate threats posed by releases or potential releases of hazardous substances, pollutants, and contaminants in emergency and non-emergency situations at NPL and non-NPL sites. EPA undertakes removal response actions at: 1) emergency incidents where response is necessary within a matter of hours (e.g., threats of fire or explosion); 2) time-critical incidents posing public health and environmental threats; and 3) non-time critical situations at both NPL and non-NPL sites to promote quicker and less costly cleanup. Sites known to pose the greatest potential risk to public health and the environment receive priority. EPA's improved ability to respond to hazardous substance release emergencies will be measured in its FY 2004 emergency response and homeland security measure.

For sites listed on the NPL, remedial work begins with site characterization and a feasibility study to review site conditions and proposals for future land use. These actions form the foundation for the record of decision and remedy selection. Community involvement is a key component in selecting the proper remedy at a site. A remedial action is performed upon approval of the remedial design and represents the actual cleanup or other work necessary to implement the remedy selected. Potentially responsible parties or other Federal agencies

perform remedial action work. EPA or states may also perform remedial cleanup as Fund-financed actions.

In FY 2004, EPA will complete construction at 40 NPL sites. As of December 29, 2002, EPA assessed over 44,400 sites, completed final cleanup plans at over 1,100 Superfund NPL sites, conducted over 7,300 removal cleanup actions at hazardous waste sites to reduce immediate threats to human health and the environment, and removed more than 33,100 sites from the CERCLIS waste site list to help promote the economic redevelopment of these properties. The Agency also cleaned up or had construction underway at 93% of the 1,499 sites on the final NPL. Of these 1,499 sites, 56% have cleanup construction completed (846 sites) and 37% have removal or remedial cleanup construction underway (548 sites).

Environmental Results

The Superfund Program fulfills an important environmental mission of reducing risks to human health and the environment posed by dangerous chemicals, pollutants and contaminants in the air, soil and water. The Superfund program and its partners – including other Federal agencies, states, local and Tribal governments and others – work collaboratively to reduce these risks.

Environmental data gathered by EPA through October 8, 2002, shows that since the inception of the Superfund program, EPA has: 1) provided alternative drinking water supplies to nearly 610,000 people at NPL and non-NPL sites to protect them from contaminated ground and surface water; 2) relocated over 32,000 people at NPL and non-NPL sites in instances where contamination posed the most severe immediate threats; 3) treated or removed 820 million cubic yards of hazardous solid waste; and, 4) addressed 365 billion gallons of hazardous liquid waste (including contaminated groundwater).

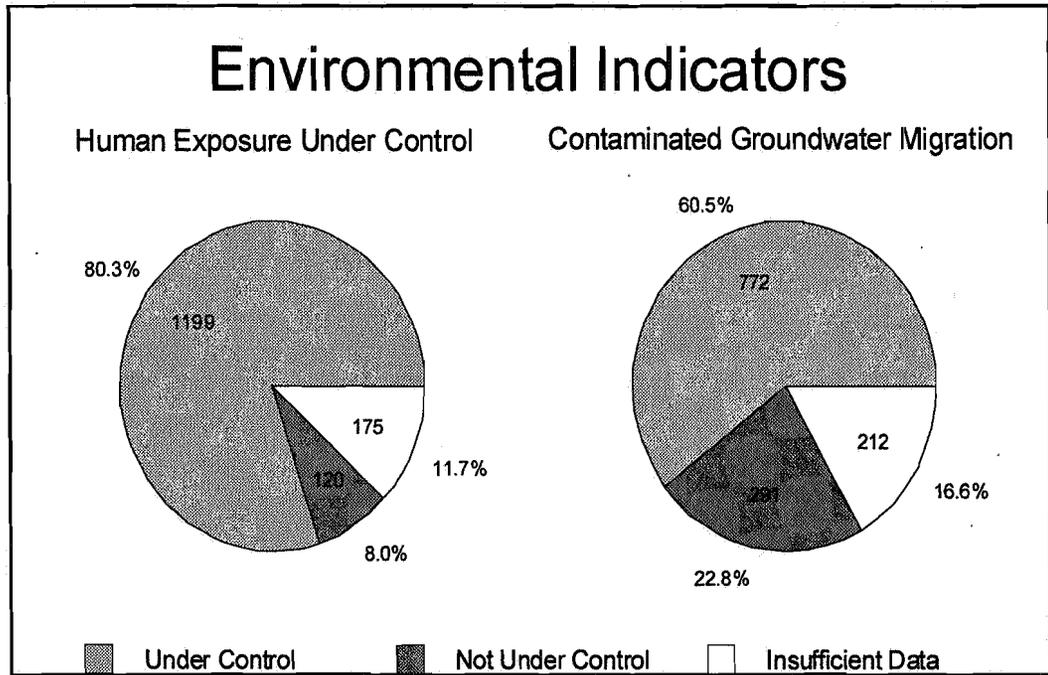
The Superfund program seeks to improve its ability to measure true environmental progress in achieving its mission. In FY 2004, EPA will measure progress in achieving environmental results through 5 key performance measures. These five measures include: (1) assessing the extent of contamination at sites, (2) the initiation of removal response actions, (3) completion of construction of the selected remedies, (4) protecting the public from exposure to contamination, and (5) controlling the migration of contaminated groundwater. These measures highlight important milestones in achieving risk reduction; no one measure can itself adequately capture the environmental benefits derived from the Superfund program.

The first 3 measures have been in place for several years. Two new measures, (4) and (5) above, implemented in FY 2002, highlight EPA's efforts to control human exposure pathways and the migration of contaminated groundwater at NPL and non-NPL sites. In FY 2002, these two measures first provided baseline information about whether human exposures and the migration of contaminated groundwater is under control under the current conditions at NPL sites. These two measures focus on the current conditions at sites (i.e., current exposures and current land use) and highlight sites where some risk reduction has occurred as a result of EPA's activities. As such, these indicators seek to quantify the benefits resulting from intermediate cleanup and investigative activities.

The Human Exposure Under Control measure, (4) above, is meant to describe whether adequately protective controls are in place to prevent any unacceptable human exposure under current land and groundwater use conditions only. This measure does not consider potential future land or groundwater use conditions or ecological receptors. As of September 30, 2002, 1,199 NPL sites (over 80%) had human exposures under control. The Superfund program expects to control human exposures at an additional 10 sites for both FY 2003 and FY 2004.

The Groundwater Migration Under Control measure, (5) above, is meant to describe whether the migration of contaminated groundwater from a Superfund site is being controlled through engineered remedies or natural processes. As of September 30, 2002, the migration of contaminated groundwater

was under control at 772 NPL sites (over 60%) with contaminated groundwater. The Superfund program expects to control the migration of contaminated groundwater at an additional 10 sites for both FY 2003 and FY 2004.



The Superfund program is committed to returning underutilized land to productive reuse through its cleanup and other actions. The Superfund program has a workgroup underway to develop a measure of this activity. A measure entitled Acres of Land Available for Safe Reuse is currently under consideration, and is scheduled to be introduced by Superfund beginning in FY 2005.

As the Superfund program seeks to improve and refine its existing program measures, it is actively working on several new measures for use in the years beyond FY 2004:

- Ecological Risk Reduction measure – The Superfund and RCRA programs are working together to develop an Ecological Risk Reduction measure. This measure is intended to quantify the benefits resulting from cleanup actions by estimating the degree to which the selected remedy protects ecological receptors from contaminants at the site. Within the next several years, EPA intends to develop and pilot a draft methodology to ascertain the feasibility of implementing this type of measure. Based on the pilot results, EPA and its

partners seek to develop a measure that demonstrates ecological risk reduction by FY 2008.

- Population Exposure Reduction measure – The Superfund program is in the process of developing a population exposure reduction measure to better quantify the human health benefits resulting from cleanup actions. Within the next several years, EPA intends to develop and pilot a draft methodology to ascertain the feasibility of implementing this type of measure. Based on the pilot results, EPA and its partners seek to develop a measure that demonstrates population risk reduction by FY 2008.

EPA is actively seeking comment from stakeholders on these two approaches. Most notably, EPA has shared the draft methodologies for the Population Exposure Reduction and the Ecological Risk Reduction measures with the National Advisory Council for Environmental Policy and Technology (NACEPT) Superfund Subcommittee and has received initial feedback. We anticipate that the Subcommittee will participate fully in the refinement of these measures during FY 2004 and beyond.

Another new measure currently under development, but planned for implementation in FY 2004 is the Homeland Security/Emergency Response Readiness measure. This measure is based on EPA's Core Emergency Response criteria, and it is anticipated that baseline data will be gathered in FY 2003, with a target of 10% improvement from baseline every year beginning in FY 2004.

Other performance measure related activities include the One Cleanup Program Initiative, in which Superfund is an active participant. The Measuring for Results component of the One Cleanup Program Initiative involves developing a unified, cohesive set of performance measures for all cleanup programs.

In FY 2004, Superfund will also be working with the Regions to extend the traditional and evolving performance measures, including construction completions, to the Superfund Alternative Sites. The current focus of this effort is to improve the quality of CERCLIS data. A headquarters/regional workgroup is being formed to finalize the approach for tracking and counting construction completions.

Superfund Pipeline Management Review

The Agency initiated the Superfund Pipeline Management Review (PMR) during FY 2002 to ensure that Agency resources are properly focused to achieve maximum results, including protection of human health and the environment as well as progress towards completion of response actions at sites.

As of October 1, 2002, Superfund has 1,499 sites on the NPL, of which over 650 require additional response actions (also called construction) to achieve protection of human health and the environment. As the program has matured, more sites have advanced to the construction phase. Superfund construction projects are technically complex and costly, and growth in the number, size, duration and cost of these projects over time has resulted in a backlog of

construction projects awaiting funding. Superfund cleanups directly support the Agency goal of ensuring that the Nation's land is better protected.

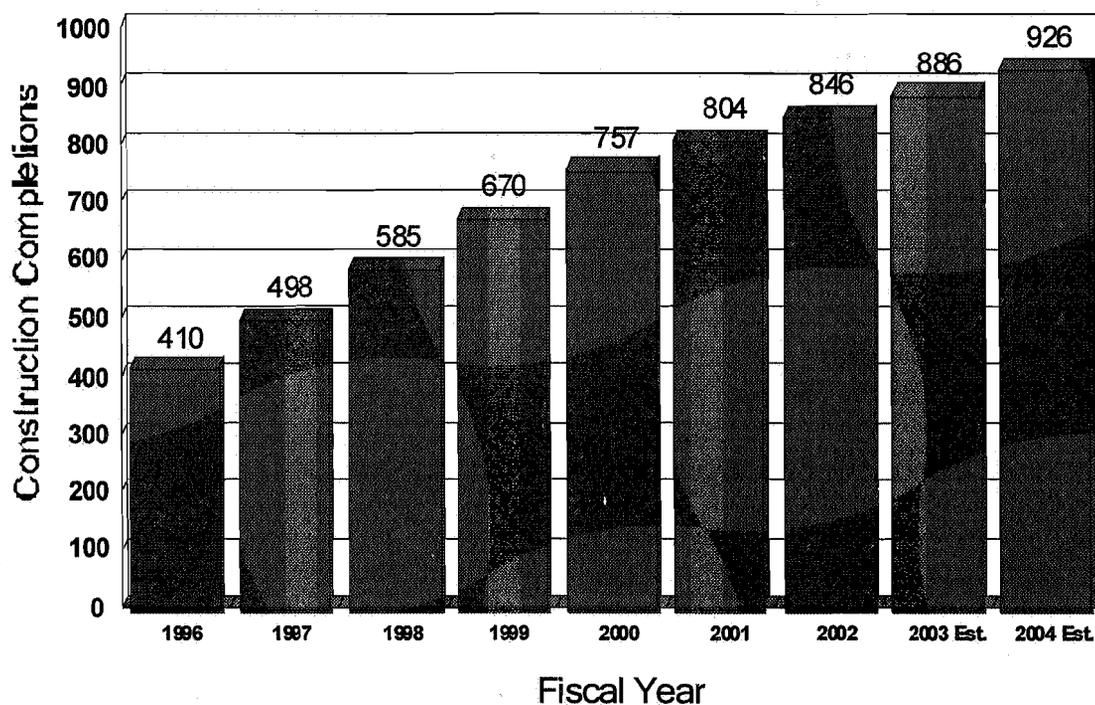
Through the PMR, EPA is increasing the precision with which the Agency tracks construction completion candidates and projects future construction completion achievements, extending the planning horizon for making funding decisions for Superfund construction projects, and implementing new policies and actions to maximize the use of resources available for construction.

Construction Completions

Construction completion has been the primary performance measure for the Superfund program and the Agency remains committed to completing construction at Superfund sites. After four years of exceeding 85 construction completions annually, the program achieved 47 construction completions during FY 2001 and 42 construction completions in FY 2002, for a total of 846 completions since the inception of the program. The Program expects to achieve construction completion at 40 sites during FY 2003, for a total of 886 since program inception. EPA expects construction completion accomplishments to remain at approximately 40 during FY 2004. Since the beginning of the program, the Agency has averaged 42 construction completions per year. As part of the PMR the Agency has moved to a three year planning cycle to identify and track construction completion candidate sites. Early in FY 2002, Headquarters conducted a series of regional visits to interview, and collect data from, Remedial Project Managers (RPMs) who manage approximately 150 sites that, at that time, were considered by the Regions to be candidates for construction completion during FY 2002 through FY 2004.

EPA monitors site progress and identifies potential critical points as sites move towards construction completion. Starting in FY 2003, as part of the three year cycle for construction completion planning and tracking, the Agency will regularly conduct detailed and comprehensive reviews of construction completion candidates for the current year and the following two years. The information collected from the discussions will be used to better follow site progress, identify potential problems, and sharpen projections of future construction completions.

Cumulative Construction Completions



Remedial Action Project Planning & Resource Allocation

Funding for Superfund construction projects is critical to achieving risk reduction and construction completion measures. The cost of Superfund construction projects underway and those awaiting funding is rising due to the greater complexity of sites remaining on the National Priorities List (NPL).

Through the PMR, the Agency is taking the following internal actions:

- carefully review the scope, budget and schedule of ongoing construction projects to ensure available resources are directed where they are needed.
- review construction start candidates to ensure that sites that present the greatest risk to human health are addressed, while balancing the programmatic need to complete construction at other sites.
- emphasize “enforcement first” to maximize the involvement of responsible parties to conduct cleanups.
- Maximize the use of resources already available to the Agency.

These actions proved successful during FY 2002. The Agency redirected more than \$100 million from 15 construction projects, which still allowed continued progress at these sites, but

allowed EPA to direct resources to meet other construction project needs. Cumulatively, the Agency obligated more than \$300 million in appropriated funds and over \$50 million in reimbursable resources for Superfund construction. Funding was provided for more than 100 "ongoing" construction projects and long-term response actions, as well as 19 "new start" construction projects. However, funding was not available for seven construction projects that were ready to start, with a cumulative estimated cost of approximately \$100 million, and these sites will be reconsidered for funding during FY 2003.

EPA will continue to place a high priority on construction funding during FY 2003. Contingent on the final appropriation level, the Program will increase funding for construction by \$10 million by shifting resources from pre-construction activities. As resources are identified for new start construction, projects will be selected for funding based on their relative risk to human health and the environment and the potential to achieve construction completion. The EPA will continue to focus on the PMR initiatives described above, with particular emphasis on enforcement first. Additionally, the Program has undertaken a new management initiative to more efficiently monitor, project and manage the funding needs associated with high cost multi-year projects using computer enhanced planning and tracking tools. The goal of this initiative is to monitor large projects on a real time basis so that adjustments to resource needs and schedules can be immediately factored into current and projected national budget operating plans.

FY 2004 Funding Increase for Superfund Construction

To address growing construction project resource needs, the Agency requests an increase of \$150 million for FY 2004. The Agency will use these resources to begin new construction projects at high priority sites. Specifically, we expect to demonstrate significant progress in reducing risk to human health and the environment and revitalizing the number of construction completions at NPL sites within two to three years. This investment will mitigate potential human exposures and control the migration of contaminated groundwater, thus protecting humans and ecosystems from unacceptable risks.

With the additional resources from this initiative, EPA will initiate 10 to 15 new remedial action projects in FY 2004, including backlogged projects not funded in prior years. As a result, EPA hopes to achieve construction completion at up to 10 additional sites during FY 2005 and FY 2006. Also, with the support of the additional resources, EPA hopes to control actual and potential human exposures and/or migration of groundwater contamination at a similar number of sites.

As of January 2003, a total of approximately 80 sites may be ready for cleanup in FY 2003 and FY 2004. Of these sites, over 40% are construction completion candidates within two years following the start of construction. In addition, over 25% of the sites have been identified as not having human exposures controlled. As site-specific resource use plans solidify, Superfund will assign funding priority to projects at sites where actual or potential human exposures are not controlled, and at sites where EPA can achieve construction completion during FY 2005 and FY 2006.

As described above, EPA will continue to improve its site/project tracking methods, and will improve its projections of which projects will receive resources for new construction during a fiscal year, and at which sites EPA is likely to achieve construction completion in upcoming years.

Evaluation

The Agency will evaluate the effectiveness of this initiative by monitoring short-term and long-term accomplishments:

- Short-term focus – Superfund will closely monitor the allocation and distribution of the requested increase to ensure that the funds are directed to response action construction; Superfund will monitor and report on the number of response actions initiated with the proposed funds and undertake management actions to ensure the funds are used for the highest priority sites;
- Long-term focus – Superfund will monitor the progress of the funded projects and report the number of sites where human exposures and groundwater migration was controlled, and construction completion was achieved.

Superfund Program Initiatives

National Advisory Council for Environmental Policy and Technology (NACEPT)

A key component of the one cleanup program initiative is undertaking a stakeholder dialogue on the future direction of the Superfund program in the context of other waste cleanup programs. The Agency initiated this dialogue in June 2002 with the creation of the Superfund Subcommittee under the National Advisory Council for Environmental Policy and Technology (NACEPT). This dialogue will last approximately 18 months. The Subcommittee will work to render consensus-based recommendations on three key issues: 1) the role of the National Priorities List (NPL); 2) mega sites; and 3) performance measures.

NPL Listing Policy

EPA is working on two fronts to thoroughly examine its policies with regard to decisions to place new sites on the NPL. As noted above, a new NACEPT Subcommittee has been convened to provide broad Superfund program stakeholder advice on NPL listing, and a new EPA, state and Tribal workgroup has been formed to develop recommendations for interim NPL listing policies/management approaches. The NACEPT Subcommittee will be working on this issue for the next 12-18 months, so its recommendations address a longer-term future of Superfund. The EPA-led workgroup is focusing its attention on interim/near-term refinements of existing NPL listing policy. Key areas include consultation/consideration of non-NPL cleanup options and systematic priority-setting among candidate sites. EPA will be communicating its activities and the status of NACEPT's work as it progresses.

Superfund Pre-SARA/First Generation Site Initiative

Closely tied to the PMR is the Superfund pre-SARA site initiative. As of August 1, 2002, 226 sites that were placed on the NPL prior to October 16, 1986 (date of enactment of the Superfund Amendments and Reauthorization Act, SARA) were not construction complete. This initiative encourages Regions, working with States, other Federal agencies and local jurisdictions, to resolve issues necessary to move these pre-SARA sites into the construction completion category. Specifically, the initiative will:

- focus on developing stakeholder-based schedules for resolving remaining issues delaying the completion of longer duration sites (i.e., Federal and non-Federal, pre-SARA, final NPL sites);
- facilitate the resolution of issues necessary to completing construction at these sites by identifying the scientific, technical and legal issues to be resolved, sequencing the resolution of issues to maximize completions over the next 5 to 10 years, and establishing accountability for issue resolution (e.g., Research and Development, Enforcement, Federal Facilities, Superfund);
- allocate program resources to better leverage cleanups at these sites (e.g., factoring in the cost of 'warehousing sites,' as well as, funds needed for completion);
- provide more aggressive management oversight, tracking of site progress, reporting of accomplishments, and publicizing results; and
- use lessons learned from analysis of past sites to minimize the number of future sites lingering on the NPL in the future.

Post Construction

Although construction completion is a major milestone in the Superfund program, many activities occur at a site after construction is complete. These post construction activities are essential to assure that Superfund sites remain protective and are suitable for reuse following cleanup. The activities include:

- oversight of operation and maintenance activities performed by the states and PRPs to ensure that the remedies work properly;
- operation of Fund-financed groundwater restoration systems for up to 10 years (long-term response), and oversight of states and PRPs operating these systems until cleanup goals are achieved;
- implementation and oversight of institutional controls;
- five-year reviews to ensure remedies remain protective of human health and the environment;

- optimization of groundwater restoration systems to improve performance and/or reduce costs; and
- NPL site deletion.

As more sites move into post construction, the EPA is devoting more resources to assure adequate long-term stewardship. A post construction strategy for Superfund sites is currently under development that will identify key initiatives for FY 2003 and FY 2004. EPA will work closely with State and local partners as well as other stakeholders to focus on these key initiatives.

One area requiring increased emphasis is institutional controls (ICs). EPA defines ICs as non-engineered instruments, such as administrative and/or legal controls, that help to minimize the potential for human exposure to contamination and to protect the integrity of a remedy by limiting land or resource use. The challenge of ICs is that although they play a critical role in remedies, they are often implemented, monitored and enforced by different agencies and/or entities at different levels of government. To ensure the long-term reliability of ICs, structured, coordinated and routine IC tracking must occur. For this reason, EPA is working with other Federal Agencies, states, Tribes, local governments and industry to pilot the development of a coordinated Federal, state, local and industry tracking approach to better manage IC information. This concept promotes the identification of core data categories, the use of common IC definitions, and the virtual sharing of IC information among various IC co-regulators and other stakeholders.

The main goal of the Coordinated IC Tracking Concept is to promote pro-active stewardship throughout the entire IC life-cycle by facilitating the collection, tracking, and sharing of accurate information about ICs. The concept is to link different Federal, state, Tribal, local government and industry systems through a virtual network. An EPA system will be one part of the network, and will provide links to other tracking systems and mechanisms to share information. To create this network, EPA has begun a collaborative development process among co-regulators, industry and other stakeholders that seeks to: 1) leverage information from existing systems; 2) provide an opportunity for data to be collected by organizations not currently tracking ICs; 3) identify and exchange methods for effective data sharing; 4) pilot the sharing of information on a minimum set of data elements; and 5) identify data stewards to support the formation of a network for data sharing. EPA is hoping to have results from this pilot by the end of calendar year 2003.

Community, State, and Tribal

EPA is committed to involving the community in the site cleanup process. Superfund bases its community involvement on two-way communication designed to keep citizens informed about site progress and give them the opportunity to provide input on site decisions. The Agency conducts outreach efforts, such as holding public meetings and public availability sessions and by distributing site-specific fact sheets. Superfund also has a variety of community involvement programs, such as the Technical Assistance Grant (TAG) program, the Community Advisory Group (CAG) program, the Technical Outreach Services for Communities (TOSC) and

Technical Outreach Services for Native American Communities (TOSNAC) programs, and the Superfund Job Training Initiative (SuperJTI). The TAG program provides communities with financial assistance to hire technical advisers to assist them in understanding the problems and potential solutions to address hazardous waste cleanups. A CAG is a group of community stakeholders, which reviews plans and activities and provides input on local needs and concerns to those responsible for cleaning up a Superfund site. TOSC and TOSNAC are university-based outreach programs that provide technical assistance to communities that are affected by hazardous substances. SuperJTI supports job training programs in communities affected by nearby Superfund sites and encourages the employment of trainees at local site cleanups. The Agency strives to create a decision-making process to clean up sites that communities feel is open and legitimate, and improves the community's understanding of potential risk at hazardous waste sites.

States and Indian Tribes are key partners at Superfund sites. EPA can authorize the states or Tribes to carry out Fund-financed remedial actions. However, states and Tribes more often operate in the role of a support agency to remain actively involved in site response activities while EPA plays the lead role. To support their involvement as a lead or support agency, EPA provides financial support through cooperative agreements to conduct removal, site assessment, remedial, and enforcement projects and for core infrastructure activities.

Under CORE program cooperative agreements, EPA provides non-site specific funds to develop, maintain and enhance state and Tribal capacity to manage and implement the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) responses. EPA currently has CORE program cooperative agreements with 46 states and 55 Tribes or Tribal consortia. Activities funded under the core program cooperative agreements include: 1) developing procedures for emergency response and long-term remediation (e.g., health and safety plans, quality assurance project plans, and community relations plans); 2) satisfying all Federal requirements and assurances (e.g., fiscal and contract management activities for CERCLA); 3) providing legal assistance (e.g., coordinating applicable or relevant and appropriate requirements (ARAR) identification); and 4) training staff to manage publicly-funded cleanups.

Redevelopment

EPA is increasingly aware of the importance of fully exploring future use opportunities at Superfund sites with its partners before selecting and implementing a cleanup remedy. In FY 2004, the Superfund redevelopment initiative will facilitate the return of Superfund sites to productive use. As a result, Superfund sites that were once thought to have no future use potential are now being "recycled" back into productive use. EPA has compiled a list of over 330 Superfund sites that have been recycled for numerous purposes. For example, more than 60,000 acres are now in ecological or recreational use at these sites. Additionally, more than 15,500 jobs, representing approximately \$500,000,000 in annual income, are located at sites that have been recycled for commercial use. Under this initiative EPA will continue to focus its efforts on the potential reuse of Superfund sites and involve its partners to determine future uses of sites. EPA can then select, design, and implement cleanups that are protective of human health and the environment consistent with chosen future uses. EPA has given communities at

69 pilot sites up to \$100,000 in direct financial assistance and/or services. EPA will assess the impacts from these pilots on the Superfund program and their potential to facilitate site reuse following cleanup. By the end of FY 2004, EPA expects to have completed reuse plans for most of the original 50 pilot sites.

The emphasis on land revitalization in EPA's cleanup programs will lead to the development of new measures such as acres of land made available for use and acres of land in use. The Agency will begin reporting on Brownfield acres available for use in FY 2004. In following years, the Agency will be reporting on acres available for use in other programs.

Quality Assurance

In an effort to better implement the Agency's Quality Assurance Order (EPA Order 5360.1 A2 May 2000), EPA is enhancing the quality management activities of its Superfund program office. This work entails the implementation of a quality management plan based on the EPA Order. Specific enhancement of standard operating procedures, guidance for the development and application of models, training for quality related activities, and other activities will aid in promoting quality. The quality management plan will initiate a continuing process to improve environmental cleanup decisions. These activities will continue to promote cross program coordination so that Superfund cleanup efforts will reflect increasing progress toward consistency and transparency across programs that is needed to support the goal of one cleanup program. The maintenance of up-to-date standard operating procedures allows EPA to continue to take immediate actions to address Homeland Security threats and other responses that require quality assurance procedures for the collection and assessment of data to support decisions on hazards and cleanup. Finally, these quality assurance activities support revitalization efforts through the establishment of transparent and consistent standards for environmental cleanups.

Activities to establish consistent Quality Assurance processes among EPA, Department of Defense, and Department of Energy will continue in FY 2004. An Intergovernmental Data Quality Task Force (IDQTF) has completed development of a *Uniform Federal Policy for Implementing Quality Systems* which has been approved by DOD, DOE and EPA. The Task Force is chaired by the Director of the Federal Facilities Restoration and Reuse Office. This policy will form the basis of a DOD-wide quality system and is under consideration as the basis of a DOE-wide system. EPA and DOD are negotiating a Memorandum of Understanding on implementation of the Policy.

The IDQTF is revising the draft *Uniform Federal Policy for Quality Assurance Project Plans* based on comments from DOD, DOE, the Association of State and Territorial Solid Waste Management Officials, and EPA Headquarters and Regional offices. The Task Force feels the use of this policy will promote consistency and uniformity in planning data collection. The anticipated results include improved data quality and cost and time savings in the future. While these policies are based on a national consensus standard, *Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs (ANSI/ASQC E-4)*, agreement between Federal agencies to adopt specific procedures is a new and innovative approach in the quality arena. These initiatives will also support compliance with the guidance issued by the Office of Management and Budget on February 22, 2002, entitled

“Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility and Integrity of Information Disseminated by Federal Agencies,” which were required by PL 106-554.

The OSWER-wide Quality Management Plan, which includes the Federal Facilities Restoration and Reuse Office, will be reviewed and revised to support compliance with the EPA Information Quality Guidelines issued in October 2002.

Other Federal Agencies

Other Federal agencies contribute to the Superfund program by providing essential services in areas where EPA does not possess the needed specialized expertise. Contributors include the Department of Interior (DOI), the National Oceanic and Atmospheric Administration (NOAA), the Federal Emergency Management Agency (FEMA), the Occupational Safety and Health Administration (OSHA), and the United States Coast Guard. Some of the essential services performed by these Federal agencies include the following: 1) DOI provides response preparedness and management activities that support the National Response System; provides Federal, state and Indian Tribe trustees to assess damage to natural resources as a result of hazardous substances releases; and provides scientific support to develop ways to include natural resource restoration in removal actions; and 2) FEMA provides technical and financial assistance to support the National Contingency Plan and the National Response System through development of preparedness exercises and hazardous materials training.

Other Federal Agency Funding

Agency	FY 2003 Pres Bud	FY 2004 Pres Bud
DOI	\$997,700	\$997,700
FEMA	\$1,097,400	\$1,097,400
NOAA	\$2,444,500	\$2,444,500
OSHA	\$648,500	\$648,500
USCG	\$5,487,900	\$5,487,900
Total	\$10,676,000	\$10,676,000

Homeland Security

Core Emergency Response

EPA’s capability to respond effectively to chemical, biological, and radiological incidents will be measured through the Core Emergency Response (Core ER) program. This continued enhancement in EPA’s Regional response capabilities will cover all aspects of the Core ER program, including Regional Response Centers, transportation, coordination with backup Regions, health and safety, delegation and warrant authorities, response readiness, response equipment, identification clothing, training and exercises, and outreach. The Agency will establish measurable improvement goals in Core ER and will work toward that improvement through exercises and other program enhancements.

EPA has established a criteria of excellence through the structure of the Core ER program. While EPA is currently prepared to respond to chemical, biological, and radiological incidents, improvement in the emergency response and homeland security readiness measure will demonstrate an increased ability to respond quickly and effectively to national-scale events. The FY 2004 Core ER target is to improve emergency response and homeland security readiness by 10% from the FY 2003 baseline performance.

EPA's field response capability also relies on a support infrastructure including specialized equipment, equipment inventories, and laboratory support. The Agency will continue to build on its equipment support by identifying state-of-the-art detection, monitoring, and response equipment designed to address chemical, biological, and radiological agents. Also, EPA will build inventories of standard response equipment such as personal protective gear to ensure that it is prepared to respond to multiple incidents. Equipment will be maintained and replaced as necessary to ensure the Agency has the best technology available.

EPA's field responders and National Response System special forces require extensive training in a variety of response-related areas, including scientific and technical training for detection, analysis, and response to chemical, biological, and radiological agents; and training in incident command system response management processes. Training courses will be developed and implemented for different levels of response experience and involvement, including refresher courses for senior, experienced responders; in-depth training for newer responders in both scientific and response management areas; and training for all responders in state-of-the-art response techniques and emerging chemical, biological, and radiological threats.

Environmental Response Team

EPA's Environmental Response Team (ERT) will continue to provide specialized field support to Regional responders, including specialized air monitoring, health and safety support, and other scientific and technical support. ERT will continue to enhance its capabilities in its Edison, New Jersey, Cincinnati, Ohio, and Las Vegas, Nevada, locations to ensure that they are ready at all times to quickly and effectively meet the specialized field support needs of EPA's responders, including those responses to terrorist incidents with biological, chemical, and radiological agents.

Decontamination Team

EPA will continue the development of the National Response Decontamination Team (Decon Team) that provides unique, immediate response capabilities to safely and effectively support decontamination activities related to chemical, biological, and radiological terrorism events. While focused domestically, the Decon Team may respond worldwide delivering scientific and engineering expertise for the decontamination of buildings, building contents, public infrastructure, indoor environments and the associated environmental media. The Decon Team is designed to integrate with and operate from within incident command structures, along with and complementing other Special Forces. When not fully engaged, this team is devoted to preparedness activities related to the team's primary function.

Field Expertise, Training, and Equipment

EPA's response personnel must consistently work to keep its skills refined and technologically up-to-date. This will be accomplished through extensive training and exercises focusing on terrorist-related scenarios and anticipated chemical, biological, and radiological agents. In addition, these resources will refine and improve field response skills through participation in responses to smaller-scale and non-terrorist incidents. These incidents often present similar consequences and response challenges as those anticipated for terrorist incidents, and additionally introduce more real-life situations and complicating factors than planned exercises. Participation in these actual responses is critical to ensuring that these specialized response teams are fully prepared to handle terrorist incidents.

Federal Preparedness

EPA supports a highly effective national emergency preparedness and response capability under multiple authorities.

Under the Homeland Security program, the Office of Solid Waste and Emergency Response (OSWER) is the designated program lead responsible for ensuring that EPA as a whole is prepared to respond to chemical, biological and radiological events. OSWER coordinates the Agency's response to national emergencies. The program also serves as the Agency's focal point for coordinating internal activities; and it represents EPA with interagency organizations, committees and workgroups to coordinate Federal activities and ensures that EPA's programs and activities are consistent with the Homeland Security national strategy.

In FY 2004 Homeland Security activities will continue to concentrate on implementing recommendations in the September 11 Lessons Learned Report. Efforts will include improving the operations of the National Incident Coordination Team which serves as the EPA focal point for coordinating response efforts and handling cross-program and multi-program issues before and during terrorist incidents. The program will also continue to upgrade the EPA Emergency Operations Center and coordinate development of a comprehensive EPA Continuity of Operations/Continuity of Government plan that can be immediately activated when a catastrophic emergency occurs.

Through the National Response Team (NRT)/Regional Response Teams (RRTs) and the Federal Response Plan (FRP), the Federal government provides assistance to states and cities to prevent, prepare for, and respond to hazardous substance and petroleum emergencies.

Building on current efforts to enhance national emergency response management, NRT agencies will continue to implement and test an incident command/unified command system (ICUCS) across all levels of government and the private sector. Technical assistance guidance, training, and exercises will be provided to identify and correct barriers to implementing the system (e.g., size of command structure, cultural differences between state/local and Federal responders). Decision-making about whether to evacuate or shelter-in-place and how to communicate to the public (before and during an incident) are also important parts of the process and will be addressed in FY 2004. In the science and technology area the NRT is developing a

system that will allow contingency plans to be posted on the internet so that information can be instantly available to responders. The system is expected to be completed in FY 2004.

Another important NRT priority in FY 2004 is the U.S.-Panama Canal agreement which calls for the U.S. to provide assistance to Panama for emergency incidents that exceed their incident management capabilities. Activities will include training and table top exercises involving incident notification and response management.

The FRP, under the direction of the Federal Emergency Management Agency (FEMA), provides for the delivery of Federal assistance to states to help them deal with the consequences of natural (floods, earthquakes, hurricanes) and other significant disasters. EPA has the lead responsibility for the plan's Emergency Support Function covering hazardous materials. As such, it participates in the Federal Emergency Support Function Leaders Group which addresses FRP planning and implementation at the operational level. Through this interagency organization, Federal agencies handle issue formulation and resolution, review after-action reports, and evaluate the need for changes to FRP planning and implementation strategies. They also participate in FRP exercises, training and post event evaluation actions, coordinating these activities closely with the National Response Team.

Under the FRP, EPA participates on the Catastrophic Disaster Response Group (CDRG) which provides national level guidance and policy direction on response coordination and issues that arise from emergency support function activities. A key activity of this group is the development of the Catastrophic Earthquake Project. The effort includes a comprehensive examination of a prior earthquake response to determine the nation's capability to respond to future disasters. Completion of the evaluation will result in a revised and improved national earthquake disaster response plan.

In FY 2004, EPA will continue to provide staff support to the FEMA's emergency operations center during national disasters and emergencies. We will also continue to develop and participate in training courses on emergency support function responsibilities, deliver presentations on the FRP to national forums, and participate in nation-wide exercises to test and improve the Federal government's preparedness and response system capabilities.

Research

EPA's Homeland Security Research Program supports one of six Administration FY 2004 Interagency Research and Development Priorities. Research is concentrated under the Preparedness, Response, and Recovery goal of EPA's Homeland Security Strategic Plan. Under this goal, EPA will focus on strengthening and broadening its response capabilities, clarifying its roles and responsibilities to ensure an effective response, and promoting improved response capabilities across government and industry in the areas in which EPA has unique knowledge and expertise. Among the goals in this area are the development, dissemination, and use of new and improved tools and techniques for responding to chemical and biological incidents. In FY 2004, Homeland Security research will continue to focus on building decontamination research, which will be completed by the end of FY 2004.

In FY 2004, building decontamination research will continue to focus on methods and technologies for 1) detection and containment of biological and chemical agents intentionally introduced into large buildings/structures, 2) decontamination of building surfaces, furnishings, and equipment, and 3) safe disposal of residual materials.

Superfund Federal Facilities Response Program

Thousands of Federal facilities nationwide are contaminated with hazardous waste, military munitions, radioactive waste, fuels, and a variety of other toxic contaminants. These facilities include many different types of sites, such as formerly used defense sites (FUDS), active, closing and closed installations, abandoned mines, nuclear weapons production facilities, fuel distribution areas, and landfills. The Superfund Federal Facilities Response program is still a growing program. There are 177 Federal sites listed on the NPL (158 final, 13 deleted, 6 proposed), over 9,000 FUDS, and approximately 50 Formerly Utilized Site Remedial Action Plan (FUSRAP) sites. There are currently 482 remedial investigations/feasibility studies, 74 remedial designs, and 208 remedial actions being addressed in the Federal Facilities program. Thirty-seven Federal sites have reached the construction completion stage, one installation is scheduled for completion in FY 2003 and 8 more are targeted for FY 2004. In many cases, Federal facilities face unique challenges with types of contamination (e.g., radiation, military munitions), the size of the facility (e.g., DOE's Hanford is over 500 square miles – the size of the State of Rhode Island), or the complexities of reuse related to environmental issues (e.g., base closure).

EPA's Federal Facilities Restoration and Reuse Office works with the Department of Defense (DOD), the Department of Energy (DOE), other Federal agencies, states, Tribes, and the public to find protective, creative, and cost-effective cleanup solutions, while encouraging restoration and property reuse. The Federal Facilities program provides technical and regulatory oversight at Federal facility sites to ensure protection of human health, effective program implementation, and meaningful public involvement. The Agency encourages citizen involvement by working with DOD to establish Restoration Advisory Boards and DOE to establish Site Specific Advisory Boards.

Performance goals and measures for the Federal Facilities Superfund Response program are a component of the overall Response Cleanup measures. EPA's ability to meet its annual Superfund targets (construction completion, environmental indicators, and property reuse) is partially dependent on work performed at NPL Federal facility sites. Such issues as military munitions, post-record of decision (ROD) authority disputes, and reduced environmental cleanup resources play a major role in construction completion targets being accomplished on schedule at Federal sites. Due to on-going post-ROD dispute issues at DOD installations, over 60 remedy decision documents have been delayed. There are approximately two dozen DOD sites involved in a post-ROD authority dispute. In FY 2001, DOE began a top-to-bottom review of its environmental management mission. Developing a new plan with innovative approaches to expedite the cleanup of DOE sites and reduce risk to human health, safety and the environment is the objective of the review. Following the review, DOE, EPA and states negotiated expedited cleanup plans and high level documents establishing accelerated cleanup principles. DOE field offices then prepared Performance Management Plans based on strategies outlined in the Letters

of Intent. Increasing the pace and approach to DOE cleanup will require an increase in EPA level of effort to negotiated RODs and compliance agreements, and to oversee the cleanup and ensure human health and the environment are protected. In FY 2004, EPA will continue working with the DOD, DOE, and other Federal agency's to maximize construction completions and promote property reuse.

There is a rising demand for EPA's involvement in DOD's Military Munitions Response and FUDS programs. DOD has estimated that millions of acres of training ranges in the United States and its territories are contaminated with military munitions. By their nature, military munitions (unexploded ordnance, buried munitions, and reactive or ignitable soil) present explosive, human health, and environmental risks. The different types of military munitions vary in their likelihood of detonation and sometimes these anomalies are just laying around waiting to be picked up by innocent victims hiking or playing nearby. When disturbed, munitions may explode causing immediate death or disablement to those nearby. EPA is working on several initiatives with DOD, the states, and Federal Land Managers to help build DOD's Military Munitions Response program. The 2002 Defense Authorization Act directs DOD to publish its first inventory of closed, transferred, and transferring ranges by May 31, 2003, and to update it regularly thereafter.

EPA is finding itself more involved in the environmental investigations and cleanups of privately-owned FUDS. FUDS are sites formerly owned, leased, possessed, or operated by DOD (this includes FUDS owned by the states, Tribes, cities, and other government entities, as well as individuals, corporations, etc.). The Defense Environmental Restoration Program (DERP) assigns DOD the "responsibility" to conduct response actions consistent with CERCLA and the National Contingency Plan at such properties. The U.S. Army Corps of Engineers (USACE) executes the FUDs program for DOD.

The Agency is working on several initiatives with the USACE, states, and Tribes in the identification and cleanup of over 9,000 FUDS nationwide. EPA has finalized a policy which articulates how the Agency plans to undertake its obligations and responsibilities at non-Federally owned, non-NPL FUDS. Over the past several years, EPA, the states and public have expressed concerns with USACE response actions, environmental investigations, and cleanups at privately-owned FUDS that are not on the NPL. Some FUDS have been redeveloped for uses inconsistent with their environmental condition (e.g., housing, schools). Spring Valley, located in Northwest Washington, DC is the nation's first FUDS involving the cleanup of chemical munitions in a residential area. This site work which is being managed by the USACE, includes a university and the adjacent neighborhood where World War I chemical warfare agents were tested and disposed in 1918.

Superfund Enforcement

The Superfund enforcement program is critical to the Agency's ability to cleanup the vast majority of the nation's worst hazardous waste sites. In FY 2004, EPA will continue its successful emphasis on completing construction at Superfund sites by obtaining commitments from PRPs to conduct new remedial actions at non-Federal facility sites and ensuring Federal facility with CERCLA agreements.

EPA has successfully encouraged or compelled PRPs to undertake or fund approximately 70% of new remedial construction work at non-Federal facility Superfund sites in recent years. The environmental benefits cannot be overstated as most contaminated waste sites would not otherwise be cleaned up due to limited Federal resources. The program focuses on the following efforts: 1) maximizing PRP participation in conducting or funding response actions while promoting fairness in the enforcement process; 2) recovering costs from PRPs when EPA expends funds from the Superfund Trust Fund; and 3) negotiating agreements with Federal facilities for NPL site cleanup.

The Superfund program emphasizes “enforcement first” to ensure that sites for which there are viable responsible parties are cleaned up by those parties. In tandem with this approach, various Superfund reforms are being implemented to increase fairness, reduce transaction costs and promote economic redevelopment. The Agency provides funding to the Department of Justice (DOJ) through an interagency agreement (IAG) to assist EPA Superfund in enforcement efforts.

The Superfund program and its stakeholders have benefited from enforcement reforms implemented in recent years. These reforms include undertaking early, expanded PRP searches and investigations to enable “enforcement first” to occur and develop sufficient information to make orphan share determinations; making orphan share offers at all eligible sites; expediting negotiations to facilitate early de minimis settlements; settling with parties with limited ability to pay; making more effective and widespread use of Alternative Dispute Resolution (ADR); issuing administrative orders to the maximum practicable number of PRPs at a given site; and creating site-specific special accounts.

In FY 2004, the Agency will negotiate remedial design/ remedial action cleanup agreements at sites and will also achieve removal agreements at hazardous waste sites. Where negotiations fail, the Agency will take either unilateral enforcement actions to require PRP cleanup or use Trust Fund dollars to remediate sites. When Trust Fund dollars are used to cleanup sites, the program will take cost recovery actions against PRPs to recover expenditures.

Institutional controls are a critical component of many response actions selected by EPA to ensure that property is used and maintained in an appropriate manner after construction of the selected cleanup is complete. The Superfund program will oversee the implementation and enforcement of institutional controls following the completion of construction. Furthermore, response work will be undertaken, in accordance with existing agreements or through additional negotiations, when found to be necessary through five year reviews.

EPA will continue its efforts in Federal facilities administrative activities related to CERCLA § 120 agreements. CERCLA § 120 requires that for all Federal facility sites on the NPL an IAG be signed by all appropriate parties which provide enforceable schedules for the progression of the entire cleanup. For Federal facility NPL sites, the signing of an IAG and oversight of its implementation ensures a protective cleanup at a timely pace. EPA will monitor milestones in existing IAGs, resolve disputes, and oversee all remedial work being conducted by Federal facilities. EPA will work with affected agencies to resolve outstanding policy issues relating to the cleanup of Federal facilities.

In FY 2004, the Superfund cost recovery program will recover monies expended from the Trust Fund from viable responsible parties. Where settlement negotiations and previous enforcement actions have failed to achieve PRP response, and Trust Fund dollars are used to cleanup sites, the program will take cost recovery actions against PRPs to recover expenditures. By pursuing cost recovery settlements, the program promotes the principle that polluters should pay cleanup costs at sites where they caused or contributed to the contamination and maximizes the leverage of the Trust Fund to address future threats posed by contaminated sites. Trust Fund expenditures will be recouped through administrative actions, CERCLA § 107 case referrals, and through settlements reached with the use of alternative dispute resolution.

The enforcement program's involvement in case referrals and support include case development and preparation, referral and post-filing actions. The program will also provide case and cost documentation support for the docket of cases currently being worked on by DOJ. The enforcement program will meet cost recovery statute of limitation deadlines, resolve cases, and issue bills for oversight and make collections in a timely manner.

Radiation Program Preparedness, Guidance, and Support

In FY 2004, EPA's Radiological Emergency Response Team (RERT), a component of the Agency's emergency response structure, will continue to prepare for incidents for which EPA is the Lead Federal Agency under the Federal Radiological Emergency Response Plan, as well as prepare to support other Lead Federal Agencies as appropriate. EPA will coordinate with its interagency partners to revise Federal radiation emergency response plans, develop radiological emergency response standard operating procedures and guidance for coordination of Agency support to other Federal and state response agencies, and conduct training and exercises to enhance the ability of the RERT to fulfill its responsibilities in response actions. EPA also will strengthen its national radiation monitoring capabilities to improve the Agency's ability to inform decision-makers about risk and to improve EPA's response to radiological emergencies.

In FY 2004, EPA will provide national-level guidance on the risks posed by radioactive materials in the environment, including technical guidance for conducting risk assessments in order to limit public exposure to radiation. EPA will accomplish this by working with the public, industry, states, Tribes and other governmental agencies to use information systems and to inform and educate people about radiation risks and promote actions that reduce human exposure. EPA, in partnership with other Federal agencies, will promote the management of radiation risks in a consistent and safe manner at Superfund, Department of Energy, Department of Defense, state, local and other Federal sites by:

- Evaluating human health and environmental risks from radiation site exposure, developing models of the environmental fate and transport of radionuclides, and providing a basic understanding of the biological effects of radiation.
- Developing risk assessments, remediation technologies, and measurement and information systems.
- Providing training and direct site assistance including laboratory, field, and risk assessment support at sites with actual or suspected radioactive contamination.

The radiation program also maintains an on-going capability to provide radioanalytical and mixed waste analytical data on environmental samples to support site assessment and clean-up activities. Finally, EPA coordinates with other nations on select radiological issues, including risk assessment methodologies and risk management approaches.

Homeland Security: Radiation Monitoring

The Environmental Radiation Ambient Monitoring System (ERAMS) is the only nationwide environmental radiation monitoring program that provides information about the wide-scale spread of radioactive material from nuclear or radiological incidents. ERAMS includes a network of sampling stations throughout the United States that routinely monitor air, water (precipitation and drinking water) and milk for radioactive contamination. Data from ERAMS is necessary to provide timely information for making protective action decisions in the event of a major nuclear or radiological event. For that reason, ERAMS was identified as one of the Agency's ten most important assets in the PROJECT Matrix™ Step 1 Report (Draft) and was rated as the second most important asset with regard to Public Health and Safety.

ERAMS has been functioning for several years. There is an average of one sampling site for each type of media (air, precipitation, drinking water and milk) per state resulting in coverage of approximately 24 percent of the population. Current response time for results is measured in days, allowing time for collection of samples, shipment to the laboratory, and performance of analyses. The proposed upgraded system will improve our response time and data dissemination from several days to several hours. This upgrade will provide the Agency with greater access to real-time data, enabling the Agency, Federal partners, and state, Tribal, and local officials to make rapid decisions about protecting public health. These resources are needed to upgrade the existing radiation monitoring system (ERAMS) to a National Monitoring System with state-of-the-art technology and rapid response capability to increase preparedness for terrorist attacks and other incidents. The improved system will include increasing the number of fixed air monitoring stations from 52 to 120, increasing our current U.S. population coverage from 24 percent to 60 percent. Forty deployable monitoring systems will be developed and available to be shipped to an impacted site in the event of a radiological emergency. This upgrade will provide the ability to rapidly dispatch radiation monitoring stations to areas or incidents that need additional coverage. This monitoring capability allows for greater density of sampling locations near and downwind from incidents allowing for more accurate real-time data which allows for better decision-making regarding public health protection. Additional improvements include: real-time measurements of radiation levels; state-of-the art sampling instruments; decreased reliance on volunteer operators; and a combination of fixed and deployable radiation sampling stations that will provide flexibility to maximize needed information during any specific incident.

We also will establish and maintain an electronic database and telemetry system that will provide timely data from the ERAMS, RERT, and other sources to Agency decision makers and the public during an incident and during routine conditions. The existing database allows only storage of data with no ability to transmit data from the remote sampling sites or to summarize data in the database. A searchable database will be developed to perform summaries of data and trend analyses. The proposed changes will improve the data base and allow for more extensive review and analyses of the radiation data, and would provide for rapid dissemination of the data to decision makers. It also will provide for telemetry of data directly from fixed and deployable

sampling sites during normal operations or during radiological emergencies, and allow the Agency to establish a secure technology infrastructure to support lab data transmission of sensitive data and analysis functions.

Brownfields

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Brownfields properties are not traditional Superfund sites as they are not generally highly contaminated and present lesser health risks. However, economic changes over several decades have left numerous communities with these contaminated properties and/or abandoned properties. In fact, the General Accounting Office has estimated that over 450,000 Brownfields properties exist. Concerns about environmental liability and cleanup, infrastructure declines, and changing development priorities have worsened the situation. The primary goal of the EPA Brownfields program is to provide states, Tribes and local governments with the tools and financial assistance to assess, clean up, and redevelop Brownfields properties. The Agency's FY 2004 request of \$210,754,100 for Brownfields provides: new and existing assessment grants, Brownfields Cleanup Revolving Loan Fund (BCRLF) grants, cleanup grants, funding directly to states and Tribes to support the state voluntary cleanup programs, targeted assessments, and continued implementation of the liability reforms called for in the legislation. This includes an increase of \$10,000,000 to provide assistance to states and Tribes to develop and enhance their state and Tribal response programs, a priority in the Agency's efforts to reuse and redevelop properties.

FY 2004 funding will allow for more funds to be leveraged, more jobs to be created, and more grants to receive assistance each year. By the end of FY 2004, 689 assessment grants will have been awarded, with 126 assessment grants to be announced and awarded that fiscal year. In FY 2004, 70 communities will receive grant funding for either BCRLF up to \$1,000,000 per eligible state, Indian Tribe or local government entity to clean up Brownfields sites or cleanup grants for up to \$200,000 per site.

The Small Business Liability Relief and Brownfields Revitalization and Environmental Restoration Act (Public Law 107-118) authorized the cleanup of petroleum sites. This funding will clean up a portion of the estimated 200,000 abandoned petroleum tanks found at sites. These resources would support approximately 50 communities to assess and clean up abandoned gas stations or other petroleum contamination within their Brownfields areas in conjunction with the current Brownfields assessment and cleanup programs.

The Agency provides funding for site assessment demonstration grants of up to \$200,000 each. These grants provide EPA, states, local governments, quasi governmental organizations and Federally recognized Indian tribes with useful information and new strategies for promoting a unified approach to environmental site assessment and characterization, and redevelopment. By the end of FY 2003, EPA will cumulatively award over 500 two year assessment grants to communities to assist localities in assessing contamination at Brownfields sites. These grants include existing assessment, greenspace assessment and Showcase assessment-related activities. More than 3,500 properties have had environmental assessments completed under the assessment program since program inception. In FY 2004, the Agency will continue to fund grants. EPA

designed this assistance to enhance state, local and Tribal governments' capacity to assess and cleanup properties under state and Federal environmental authorities, and facilitate the redevelopment and reuse of the properties. To date, grants have leveraged over 21,000 cleanup, construction and redevelopment jobs.

Where appropriate, the Agency provides funding for targeted assessments in communities that are not successful in competing for an assessment grant. Site assessments at non-grant Brownfields sites are performed either under existing cooperative agreements with states or through EPA contractors. This activity enjoys wide support from cities and other local communities. This funding provides preliminary assessments and site investigations using standard methodologies established by the American Society for Testing Materials.

EPA and its Federal partners will continue to emphasize interagency collaboration in addressing environmental and economic issues in communities through support of 28 existing Brownfields showcase communities. These showcase communities are distributed across the country and vary by size, resources, and community type. The goals of the project are to: promote environmental protection and restoration, economic development, job creation, community revitalization, and public health protection through assessment, cleanup and sustainable reuse of Brownfields; link Federal, state, local and non-governmental action supporting community efforts to restore and reuse Brownfields properties; and develop national models demonstrating the positive results of public and private collaboration in addressing Brownfields challenges.

The Agency will also award cooperative agreements to capitalize BCRLF grants of up to \$1,000,000 each. All communities with properties are eligible to apply. EPA offers grants to governmental entities which may provide subgrants to nonprofit or other governmental entities. This funding enables eligible entities to develop cleanup strategies, make loans to prospective purchasers to clean up properties, and encourages communities to leverage other funds into their revolving loan fund pools and cleanup grants. The Agency also provides direct cleanup grants of up to \$200,000 per site. In addition, the Agency awards Brownfields job training and development grants at up to \$200,000 over two years to help residents of Brownfields communities take advantage of new jobs created by the assessment and cleanup of Brownfields.

The FY 2004 request includes a targeted increase of \$10,000,000 to provide additional funding for the enhancement and development of state and Tribal voluntary cleanup programs (VCPs), a priority in the Agency's efforts to reuse and redevelop properties. EPA provides both monetary and technical/legal assistance to states and Tribes developing and enhancing VCPs. VCPs address contaminated sites which do not require Federal action, but need cleanup before the sites are considered for reuse. EPA believes that building strong and effective state and Tribal programs, such as VCPs, will also complement efforts to address the cleanup of Brownfields properties. To date, EPA has signed 19 memoranda of agreement that clarify that the oversight of Brownfields cleanups will be the responsibility of the states with programs which meet the six criteria established in the November 1996 voluntary cleanup guidance.

The Agency will continue to provide funding for training, research and technical assistance to localities, states, Tribes and nonprofit organizations to ensure that the most efficient and effective technologies are used for Brownfields site assessment, cleanup, and monitoring.

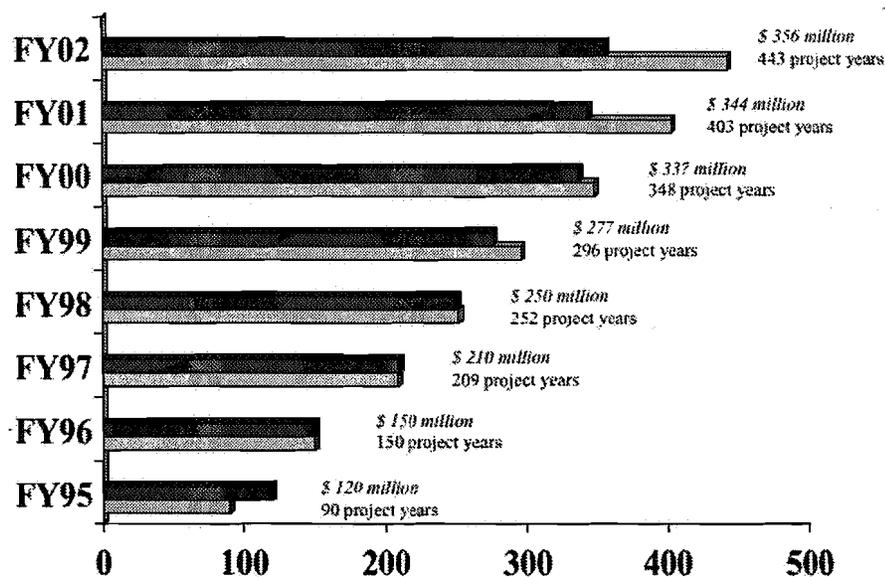
Since the program's inception in 1995, states, territories, and Tribes have received over \$106,000,000 for assessment demonstration and BCRLF grants, Voluntary Cleanup Programs, and Targeted Brownfields Assessments. By funding the increased level of grants in FY 2004, there will be a commensurate increase in leveraged investments and jobs in FY 2005. By the end of FY 2005, the Brownfields grants should leverage over \$7.5 billion and generate 39,000 jobs in cleanup, construction, and redevelopment with 6,800 properties assessed.

Base Realignment and Base Closure

Since 1993, EPA's Superfund Base Realignment and Base Closure (BRAC) program has worked with DOD and the states' environmental programs to achieve the Agency's goal of "making property environmentally acceptable for transfer, while protecting human health and the environment" at realigning, closing or closed military installations. These activities complement Agency themes of one cleanup program and revitalization. Between 1988 and 1995, 497 major military installations representing the Army, Navy, Air Force, and Defense Logistics Agency were slated for realignment or closure. Of these 497 BRAC installations, 107 have been designated as Fast-Track installations. The four rounds of BRAC are generally referred to as BRAC 1988, BRAC 1991, BRAC 1993, and BRAC 1995, indicating the year in which each cluster of military installations were selected for realignment or closure. Accelerating the cleanup of 107 BRAC installations strives to make parcels available for reuse as quickly as possible by transfer of uncontaminated or remediated parcels, lease of contaminated parcels where cleanup is underway, or "early transfer" of contaminated property.

Since 1993, EPA and DOD have addressed lease-related concerns at BRAC sites by preparing findings of suitability to lease or transfer. These findings summarize any and all environmental information upon which DOD relies while establishing environmental restrictions in leases on property conveyances necessary to

Time and Cost Avoidance Attributed to EPA Participation in the Fast Track Cleanup Program



protect human health and the environment. The majority of BRAC acres planned for transfer from DOD are intended for non-Federal entities. A major success for the Fast-Track program is the formation of base cleanup teams (BCTs) at the Fast-Track designated installations. The

teams, which include environmental experts from EPA, DOD, and states, engineer common sense approaches to cleanups by developing common goals and priorities. The Agency empowers the team to integrate base reuse priorities while making decisions to expedite the process of accelerating cleanup. To further assist with Fast-Track cleanups, EPA engages in public participation by working with DOD to establish restoration advisory boards (RABs) at military installations. RABs foster teamwork by bringing members of the community together with military officials and government regulators to discuss cleanup issues.

EPA and DOD have entered into a new interagency funding agreement which will extend EPA's involvement in the existing BRAC program through September 30, 2005. The National Defense Authorization Act of FY 2002 authorizes another BRAC round for 2005. In FY 2004, the Agency will continue to focus on meeting the requirements of the existing BRAC bases and putting those facilities back into productive reuse. EPA's participation in the BRAC program has afforded DOD a cost savings of \$356 million and 443 project years. This time and cost savings for the BRAC program translates into communities being satisfied since properties are being put back into productive reuse much quicker.

Resource Conservation and Recovery

For decades, many industrial facilities in this country mismanaged their hazardous wastes. The Superfund program addresses some of these facilities, particularly those that have been abandoned or closed. A significantly larger number, however, fall under the Resource Conservation and Recovery Act (RCRA) corrective action program that EPA and the authorized states administer. Currently, thirty-nine states and territories are authorized to implement the corrective action program. The program covers some of the most intractable and controversial cleanup projects in the country. Approximately 3,500 industrial facilities must undergo a cleanup under the RCRA program. Out of these facilities, the Agency has targeted over 1,700 facilities as high priority – where people or the environment are likely to be at significant current or future risk. The Agency is pursuing a strategy for addressing the worst facilities first, as reflected in the Agency's annual performance goal. This focus on near-term actions has resulted in over 800 of the 1,700 target facilities achieving the Current Human Exposures Under Control and Migration of Contaminated Groundwater Under Control environmental indicator goals.

Over the past several years, the Agency has been successful in implementing administrative reforms that streamlined the corrective action program and improved overall implementation. The reforms have been effective in changing the way program implementors and stakeholders interact, which has had a positive impact on moving facilities toward cleanup goals. Given the many challenges of meeting the environmental indicator targets for human exposures and toxic releases to groundwater, looking toward final cleanup, taking advantage of redevelopment opportunities, and cleaning up Federal facilities, maintaining strong partnerships with all relevant stakeholders will continue to be a priority for the program in FY 2004.

The Agency will continue to work on challenges that face the program and will implement further administrative reforms if necessary to help address them. Groundwater issues present very specific challenges, associated with, for example, the extent and severity of the contamination, complex technical and associated policy issues, and the expense of groundwater cleanups. Also, many of the high priority facilities that have not yet met the environmental

indicator goals are extremely large and complicated sites that may not make progress in cleanups at the same pace as those facilities that have already met the goals. Furthermore, our ongoing work in 2002 and 2003 has continued to demonstrate that contamination in groundwater can be a threat to people in ways beyond impacts to their drinking water supplies. These issues, as well as others related to defining "completion" of cleanup and implementing institutional controls, continue to surface during stakeholder meetings EPA hosted across the country. EPA will continue working in partnership with the stakeholders to further explore these areas.

In FY 2004, the Agency will place added emphasis and resources on providing technical assistance to facilities still working toward FY 2005 indicator goals and on moving facilities toward final cleanup. To do so the Agency will work in partnership with the authorized states and the regulated community to resolve policy and technical issues, such as those associated with setting subsequent and final cleanup goals for groundwater, indoor air exposures, and groundwater-to-surface water pathways. Since there is not a one-size-fits-all approach to cleanups, working partnerships will allow all parties to fully explore flexible, common sense approaches.

In support of the revitalization theme, the Agency will capitalize on the results of the RCRA Brownfields Pilots by applying the lessons learned on a wider scale in order to facilitate cleanup and redevelopment of RCRA Brownfields sites. By sharing the innovations demonstrated through those pilots, others may learn of new approaches that are appropriate for or adaptable to their situations. EPA will continue the Targeted Site Effort (TSE) and the RCRA Brownfields program to help "break the logjams" at sites that have significant redevelopment/reuse potential. In many cases, the efforts undertaken to date have influenced facility owners or operators and the local communities to pursue redevelopment as a primary objective of the cleanups.

In FY 2004, the Agency will devote special attention to Federal facilities being cleaned up under RCRA authorities. The Agency and the authorized states have worked with our Federal partners to more effectively communicate cleanup goals and facilitate Federal facilities' cleanups. For example, the Agency will foster dialogue with the authorized states and the Federal facility community to explore such topics as innovative approaches to cleanups and regulatory flexibility. Lessons learned through pilot programs in other industries will be applied to Federal facilities, leading to greater efficiencies in cleanups.

Training and outreach are integral parts of the corrective action program's activities. The way program implementors and the regulated community do business, and the way in which the public participates in the cleanup decisions made in their communities has been positively influenced through the reforms. The Agency will build on its successes, further promote flexibility in program implementation and continue to encourage more frequent communications among all parties.

Research

This research supports the Agency's objective of reducing or controlling potential risks posed to human health and the environment through better waste management and restoration of abandoned waste sites. Research related to hazardous substances (Superfund), leaking

underground storage tanks (LUST), and oil spills fall within this objective. A draft Multi-Year Plan for Contaminated Sites Research has been developed to ensure that research conducted under this objective is relevant to EPA's mission. Also, a Waste Research Strategy was externally peer reviewed and released in 1999 to provide a clear rationale for selection and prioritization of waste research activities. In addition, to maximize the quality of the research conducted under this objective, all scientific and technical work products must undergo either internal or external peer review, with major or significant products requiring external peer review.

Hazardous substance research focuses on improving scientific understanding of the potential human health and ecological risks that may be posed by contaminated groundwater, soils, and sediments including: 1) the presence of highly toxic site contaminants, such as heavy metals, persistent bioaccumulative toxics (PBTs), and volatile organic chemicals; 2) the potential for multiple routes of exposure to humans and wildlife; and 3) the large number of contaminated sites, many of which cover large areas, resulting in high exposure to ecological systems. Contamination of groundwater and sediments are also of considerable concern due to their importance for human and ecological health, and have been identified as high priority research needs by the Agency. The extent and geological, biological and chemical complexity of many of these sites present uncertainties in determining risk, as well as in finding effective, low-cost techniques for site characterization and remediation.

Groundwater, Soils and Containment

The Agency's Contaminated Sites Research Program addresses effects, exposure, risk assessment, and risk management in order to understand the processes that govern contaminant transport and fate, site characterization, and risk assessment and management. The program also assesses and develops remediation and characterization/monitoring technologies and evaluates their cost-effectiveness.

In FY 2004, exposure research will continue on the high priority, complex problem of determining dense non-aqueous phase liquid (DNAPL) location and concentration in groundwater. Several non- or minimally-intrusive geophysical techniques are being developed and evaluated to define subsurface geology, delineate the location and distribution of contaminants, and monitor remediation, yielding a greater ability to make sound waste management decisions. Additionally, new and innovative samplers for DNAPL-contaminated groundwater monitoring will be evaluated. A major product will include a report on 3-D interpretation of complex geologic structures via ground penetrating radar to map spilled DNAPLs.

Exposure research will also focus on the improved collection of soils contaminated with volatile organic compounds (VOCs). This work will provide guidance and techniques to improve soil sample collection, handling, preservation, storage, and analysis to ensure that the most representative samples (i.e., samples that provide accurate, unbiased, and precise information on the true distribution and concentration levels of soil contamination) will be collected at any given waste site. Research will also continue in measurement design and decision analysis to improve sampling strategies and statistical procedures for cost-effective site characterization, to reduce total sample error and uncertainty, and to better interpret data

State-of-the science preparation, separation, and analytical methods are also being developed for rapid, accurate, field and laboratory analyses of soils, sediments, ground water and biological materials contaminated with VOCs, polychlorinated biphenyls (PCBs), poly-aromatic hydrocarbons (PAHs), pesticides, and inorganics. This work supports Superfund risk assessments and clean-up decisions. Bioanalytical approaches will be developed for faster and more cost-effective screening and monitoring of hazardous substances. Immunochemical methods will also be developed and applied for rapid on-site characterization and monitoring of remediation efficiency and effectiveness at Superfund sites for PCBs, PAHs, pesticides, and inorganics. Major products for FY 2004 will include reports on a rapid turn-around screening method for Aroclors, mixtures of PCBs, identification and quantification in multiple media, and on vacuum distillation for VOC analyses.

Risk assessment research focuses on both human and ecological health and aids in the determination of risk management options as well as characterization of contaminants. Human health risk assessment research involves developing methodologies, models, and factors that enable risk assessors to develop more accurate quantitative estimates of the likelihood of harm that may result from various contaminated media. Major areas of emphasis for FY 2004 will include: developing statistical distributions for exposure factors; further refining and validating the biokinetic models for lead and other toxic metals; developing better models and methods for dermal exposure; and completing health and exposure assessments for specific contaminants.

Ecological risk assessment research develops methodologies and factors that can enable ecological risk assessors to estimate the amount of soil-borne contamination that will be biologically "available" to wildlife. In FY 2004, this research will continue to develop ecological soil screening values for common soil contaminants. These screening values will enable the Agency to make prompt decisions about what levels of contamination are not harmful to human health and/or ecosystems.

The Agency's risk management research will address priority remediation problems in groundwater and soils, helping to reduce human and ecosystem exposure to hazardous materials by making remediation more efficient and cost-effective. This research evaluates and improves existing remediation techniques and develops new clean-up processes.

In the area of groundwater remediation research, the Agency plans to continue work on characterizing dense non-aqueous phase liquid (DNAPL) contaminant source zones and on treatment and natural attenuation of inorganic contamination. DNAPLs are a major cause of organic groundwater contamination for which there are few effective commercialized remediation options. In FY 2004, EPA plans to continue work on a systems approach to DNAPL-site cleanup, combining multiple treatment technologies to move toward site closure. Research will investigate enhanced in situ approaches to remediate recalcitrant organic compounds. Research on the use of thermal treatment and flushing processes to address DNAPL source zones will also continue.

Research will continue on the remediation of dissolved inorganic plumes, particularly toxic metals, and related source areas. Field studies on monitored natural attenuation (MNA) of dissolved metals will continue, as will studies of the application of permeable reactive barriers (PRBs) to new metal contaminants such as arsenic and mercury. PRBs are an in-situ alternative

approach for remediating groundwater contamination that combine subsurface fluid flow management with a passive chemical treatment zone. Major areas of emphasis in FY 2004 will be long-term performance of PRBs, work on better methods for solid-phase characterization in support of MNA, and research on applying PRBs cost-effectively to other contaminants or environments.

Hazardous substance containment research evaluates the effectiveness of current containment systems and develops new systems using innovative materials and methods. Research areas include caps, covers, and vertical barriers for the vadose zone (i.e., the transition zone between the land surface and the water table); fixed barriers; phytoremediation methods for contaminated plumes and infiltration control; and soil contaminant immobilization. In FY 2004 research will focus on completion of field evaluations of capping options and continuation of evaluations of bottom liner options and alternative cover systems, and fugitive emissions from Superfund landfills. Research on the immobilization of metals (e.g., cadmium) in soils will also continue.

Contaminated Sediments

The National Research Council identified contaminated sediments as a top research need. EPA has responded to this need on several fronts, including developing a Contaminated Sediments Action Plan and a draft Agency-wide Contaminated Sediments Science Plan. In addition to these plans, the Agency has created an integrated research program on contaminated sediments risk assessment, exposure, effects, and risk management issues to address priority research needs for the assessment and cleanup of sites.

This research will focus on four important goals distilled from recommendations made by the National Academy of Sciences and EPA's Science Advisory Board including: (1) develop scientific models and protocols that better define the risks to human health and the environment; (2) develop new cleanup alternatives and methods that better evaluate which cleanup alternatives are most effective; (3) develop and conduct monitoring techniques to document the actual performance of cleanup technologies; and (4) develop better methods and tools to increase community involvement in cleanup activities.

In FY 2004, EPA will continue activities on dermal contact and fish ingestion exposure pathways. Estimates will be made of the amount of sediment that may come into contact with skin from various activities. Exposure models and factors will be developed that accurately predict the amount of contaminated fish and game that might be consumed, with particular focus on the fish-eating habits of sensitive sub-populations such as subsistence fishermen, certain ethnic groups, and disadvantaged communities. Dermal work associated with soils is gradually shifting to focus on contaminated sediments research and will focus on sediment contact and chemical release.

Research will also investigate the effects of contaminated sediments on the environment, aiding in the development of risk assessments. Efforts will focus on sediments contaminated with persistent, bioaccumulative toxics (PBTs), in the context of the three primary remediation options: natural recovery, capping, and dredging. Approaches will be developed that predict the biological uptake of chemicals from sediments, movement through the food web, and the effects

on top predator fish and fish-eating wildlife. To understand the ecological significance of potential toxic effects, the impacts on critical populations of fish-consuming species will be assessed. These efforts will include understanding the effects of both freshwater and marine contaminated sediments. In FY 2004, products will include approaches to long term ecological monitoring to assess the effectiveness of contaminated sediment remediation at the New Bedford Harbor, MA Superfund site as well as to parameterizing bioaccumulation models for metabolized chemicals.

Contaminated sediments risk management research will study currently available remediation options, such as dredging and dredged material disposition, natural recovery, and capping. This work will expand to additional sites in order to understand the cost-effectiveness and short- and long-term ecological impacts of these options. Contaminants of concern include polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and metals. This work will provide EPA and other stakeholders with better information for making scientifically sound cleanup decisions. Products will include a technical resource document on monitored natural recovery for contaminated sediments and three additional sets of remedy performance data.

Contaminated sediments characterization and monitoring research will continue on ecological tools for characterization as well as pre- and post-remediation toxicity assessments and bioassessments. Soil VOC work will gradually shift to sediments research for improved sampling and characterization techniques to accurately determine contaminant types, locations, and concentrations in sediments. Research will also continue to evaluate existing contaminated sediment mass fate and transport models and develop new modules for models for different classes of water bodies that address sediment-related needs of OSWER and the Regions. Finally, research on community involvement will focus on developing ways to measure community preferences and incorporate societal/cultural values into the decision making process.

Superfund Innovative Technology Evaluation (SITE), Hazardous Substance Research Centers (HSRCs), Oil Spills, and Leaking Underground Storage Tanks (LUST)

Research to assess and reduce or control risks to human health and the environment from contaminated sites is conducted through the Hazardous Substance Research Centers (HSRCs) program. Additionally, EPA's Superfund Innovative Technology Evaluation (SITE) program fosters the development and use of lower cost and more effective characterization and monitoring technologies and risk management remediation technologies for contaminated sediments, soils, and groundwater in order to better protect human health and the environment. The Agency also supports efforts to assess and reduce or control risks from oil spills and leaking underground storage tanks.

In FY 2004, the Agency will continue to support the Hazardous Substance Research Centers (HSRCs): five multi-university centers focusing on different aspects of hazardous substance management. They bring together researchers from a variety of disciplines to collaborate on research projects of high importance to the Agency (e.g., contaminated sediments). Ongoing communication between EPA and HSRC researchers that began in FY 2002 will continue in FY 2004.

The goal of the SITE program is to identify, demonstrate, assess, and distribute information about innovative and alternative environmental technologies to developers, remediation site managers, and regulators, yielding more efficient characterization and remediation processes. In FY 2004, the Agency will initiate studies of technologies dealing with priority remediation and characterization problems, including sediments and DNAPLs.

In FY 2004, oil spills research will involve the development of an oil spill model applicable to near-coastal water and options to clean up fuel and chemical spills on navigable waterways. Efforts will continue on adapting the oil spill model for Orimulsion™, a fossil fuel produced from natural components. Research will also focus on the use of bioremediation on inland waterway spills, improving chemical countermeasures, and evaluating the fate of non-petroleum products (e.g., vegetable oils) spilled on surface waters. In FY 2004, final reports on protocols for evaluating surface washing agents and spills of opportunity will be produced.

Leaking underground storage tanks (LUST) corrective action research looks at cleanup processes for fuels and fuel oxygenates, like methyl tertiary butyl ether (MTBE). This work results in a better understanding of naturally occurring subsurface processes that degrade fuel components; reliable indicators to measure natural attenuation; and models and resource documents to predict the likelihood of site-specific natural attenuation effectiveness. Studies on modeling of contaminant transport and fate, and on oxygenate degradation processes will be integrated to better understand how oxygenates behave in the subsurface. Emphasis will be placed on developing inexpensive techniques that can be implemented in the near-term to address control and treatment of MTBE-contaminated sites.

Technical Support

Technical support activities in risk management and risk assessment associated with contaminated sites will also continue in the form of support centers. These centers include the Environmental Photographic Interpretation Center (EPIC), the Ground Water Technical Support Center, and the Superfund Health Risk Technical Support Center. These centers provide site-specific technical support, responses to scientific questions (e.g., human health and environmental toxicity), and technology transfer documents to program offices and other stakeholders.

The Hazardous Substance Technical Liaison (HSTL) Program provides and facilitates technical support to the Regions in waste related areas. This program fosters communications- especially the transfer of scientific and engineering products-between ORD Laboratories and the Regions and provides direct assistance by applying their expertise in a variety of technical areas.

FY 2004 Change from FY 2003 Request

Multi-Appropriation

- (STAG +\$10,000,000, EPM +\$754,100) An increase of \$10,000,000 has been provided in STAG to enhance the States' Brownfields Response Programs (Voluntary Cleanup Program (VCPs) and Targeted Brownfield Assessments (TBAs)). Additional resources have been provided for payroll, cost of living, and enrichment for existing FTE.

Superfund

- (+\$150,000,000) This increase will address growing construction project resource needs. The Agency will use these resources to begin new construction projects at high priority sites. The Agency expects to demonstrate significant progress in reducing risk to human health and the environment and revitalizing the number of construction completions at NPL sites within two to three years.
- (+\$8,358,800, +15.0 FTE) An increase of \$6,800,000 has been provided to create and firmly establish a National Decontamination Team (Decon Team) that provides a unique, immediate response capabilities to safely and effectively support decontamination activities related to chemical, biological, and/or radiological terrorism events. While focused domestically, the Decon Team may respond worldwide delivering scientific and engineering expertise for the decontamination of buildings, building contents, public infrastructure, indoor environments and the associated environmental media. An additional \$1,558,800 has been provided for payroll, cost of living, and enrichment for 15 FTE.
- (+\$7,000,000) EPA's field response capability relies on enhancements necessary to support infrastructure such as specialized equipment stockpiles and laboratory support. The Agency will continue to enhance its equipment support by identifying state-of-the-art detection, monitoring, and response equipment designed to address chemical, biological, and radiological agents.
- (+\$7,452,600 + 25.1 FTE) Adjustments in resource allocations reflect changes to existing distribution accounts to support Capital Planning and Investment Control (CPIC) projects in the amount of \$1.4 million. In addition, two new distribution accounts were also established in FY 2004 to improve allocation of regional Financial Services costs (\$3.0 million) and headquarters Intergrated Financial Management Systems costs (\$3.1 million).
- (+\$1,717,900, +13.6 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE.)*
- (+\$1,342,600, 12.4 FTE) This change represents the distribution of resources for Regional Information Management across all Regions.

Research

- (+\$2,455,300, +21.9 FTE) These redirected workyears will support Homeland Security building decontamination research focusing on methods and technologies for 1) detection and containment of biological and chemical agents intentionally introduced into large buildings/structures, 2) decontamination of building surfaces, furnishings, and equipment, and 3) safe disposal of residual materials. All of these workyears will be funded out of the Superfund transfer account in FY 2004. Formerly, 14.6 FTE resided in the S&T account in the Air, Water, Safe Food, and Sound Science goals.
- (+\$103,700, +1.0 FTE) This increase is to support the Hazardous Substance Technical Liaison (HSTL) program. This program provides and facilitates technical support to the Regions in waste related areas.
- (-\$67,444,400) The work conducted with the \$5.6M requested for Building Decontamination research in FY 2004 will build upon work begun with the \$73.1M requested in the FY 2003 President's Budget. Work will continue to focus on methods and technologies for 1) detection and containment of biological and chemical agents intentionally introduced into large buildings/structures, 2) decontamination of building surfaces, furnishings, and equipment, and 3) safe disposal of residual materials.
- (-\$239,900, -2.3 FTE) These workyears are being redirected within Objective 5.1 to support Homeland Security. As a result, the number of screening assays for revealing the location, source, and concentration of pollutants will be reduced.

EPM

- (-\$1,511,500, -11.3 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE.)*
- (+\$1,500,000) This funding level provides additional resources for EPA's participation in the Disaster Assistance e-Government initiative.
- (+\$700,000) This increase supports additional RCRA corrective action activities to help us meet the Agency's performance goals in this area. These resources are redirected from completion of guidance and listing determinations in the RCRA program from Objective 2.

S&T

- (+\$2,697,100, +2.0 FTE) An increase of \$2,500,000 has been provided for an improved system that will allow increased preparedness for and response to terrorist threats and other incidents. The proposed request will expand and upgrade existing radiation monitoring system (ERAMS) to increase reliability and population coverage, as well as include a deployable component that can be sent to impacted areas immediately after notification. The response time and data dissemination of the fixed monitoring system would be significantly better than that of the existing monitoring system, and the population coverage of the upgraded system would be significantly better - approximately 60 percent versus 24 percent - than the population coverage of the existing fixed monitoring system. It would take approximately three years to realize the full increase of 36 percent to the population coverage. In addition, the resource request will allow for: 1) greater density of sampling locations near and downwind from incidents; and 2) maintenance and calibration of deployable monitoring stations. An additional \$197,100 has been provided in for payroll, cost of living, and enrichment for 2 FTE.

With additional funding and personnel, a telemetry system will be implemented to communicate data from the National Monitoring System stations and Radiological Emergency Response Team field monitoring locations to a central site where the database would be operational. The database will provide radiation data in the event of a terrorist or other type of radiological incident to Agency decision-makers and the public. Without additional funding the telemetry system will not be available requiring manual input of data from the field sites. Also the database would not be fully functional and would not be able to provide all the data needed to support quick decision making in the event of an emergency.

STAG

- (-\$8,000,000) The Homestake Mine is not carried forward to FY 2004.
- There are additional increases in payroll, cost of living, and enrichment for new and existing FTE.

GOAL: BETTER WASTE MANAGEMENT, RESTORATION OF CONTAMINATED WASTE SITES, AND EMERGENCY RESPONSE

OBJECTIVE: CONTROL RISKS FROM CONTAMINATED SITES AND RESPOND TO EMERGENCIES

Annual Performance Goals and Measures

Superfund Cost Recovery

- | | |
|---------|---|
| In 2004 | Ensure trust fund stewardship by getting PRPs to initiate or fund the work and recover costs from PRPs when EPA expends trust fund monies. Address cost recovery at all NPL and non-NPL sites with a statute of limitations (SOL) on total past costs equal to or greater than \$200,000. |
| In 2003 | Ensure trust fund stewardship by getting PRPs to initiate or fund the work and recover costs from PRPs when EPA expends trust fund monies. Address cost recovery at all NPL and non-NPL sites with a statute of limitations (SOL) on total past costs equal to or greater than \$200,000. |

In 2002 The goal was met. Cost recovery was addressed at 204 NPL and non-NPL sites of which 101 had total past costs greater than or equal to \$200,000 and potential statute of limitations (SOL) concerns. EPA secured cleanup and cost recovery commitments from private parties in excess of \$645 million.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	Percent
Refer to DOJ, settle, or write off 100% of Statute of Limitations (SOLs) cases for SF sites with total unaddressed past costs equal to or greater than \$200,000 and report value of costs recovered.	100	100	100	

Baseline: In FY 98 the Agency will have addressed 100% of Cost Recovery at all NPL & non-NPL sites with total past costs equal or greater than \$200,000.

Superfund Potentially Responsible Party Participation

In 2004 Maximize all aspects of PRP participation which includes maintaining PRP work at 70% of the new remedial construction starts at non-Federal Facility Superfund, and emphasize fairness in the settlement process.

In 2003 Maximize all aspects of PRP participation which includes maintaining PRP work at 70% of the new remedial construction starts at non-Federal Facility Superfund, and emphasize fairness in the settlement process.

In 2002 In FY 2002 the percentage of remedial construction starts initiated by responsible parties exceeded the target by one percent.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	Percent
PRPs conduct 70% of the work at new construction starts	71	70	70	

Baseline: In FY 98 approximately 70% of new remedial work at NPL sites (excluding Federal facilities) was initiated by private parties.

Tribal Cleanup Assistance

In 2004 Increase Tribal cleanup capabilities and assist Tribes in addressing threats from releases.

In 2003 Increase Tribal cleanup capabilities and assist Tribes in addressing threats from releases.

In 2002 41 leaking underground storage tanks were cleaned up. 8 Superfund site assessments conducted at sites of concern to Tribes. Tribes were actively involved in 28.6% of the sites that are of concern to Tribes.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of leaking underground storage tank cleanups in Indian Country.	41	45	45	cleanups
Number of Tribes supported by Brownfields cooperative agreements.			no target	Tribes
Percentage of Superfund sites that are of concern to Tribes where a Tribe is actively involved.	28.6	no target	no target	percent

Baseline: By the end of FY 2002, 573 leaking underground storage tank cleanups were completed in Indian Country. Baselines for Superfund and Brownfields activities are under development.

Assess and Cleanup Contaminated Land

In 2004 Assess waste sites.

In 2004 Clean up and reduce risk at waste sites.

In 2003 Assess waste sites.

In 2003 Clean up and reduce risk at waste sites.

In 2002 Human exposures to toxins were controlled at 172 RCRA facilities and toxic releases to groundwater were controlled at 171 RCRA facilities. 15,769 leaking underground storage tank cleanups were completed, and 42 Superfund construction completions were achieved.

In 2002 Superfund initiated 426 removal actions and recorded 587 site assessment decisions, and the Brownfields program assessed 983 properties.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of leaking underground storage tank cleanups completed.	15,769	22,500	21,000	cleanups
Number of Superfund final site assessment decisions.	587	475	475	assessments
Number of Superfund removal response actions initiated.	426	275	350	removals
Number of Superfund construction completions.	42	40	40	completions
Number of Superfund hazardous waste sites with human exposures controlled.		10	10	sites
Number of Superfund hazardous waste sites with groundwater migration controlled.		10	10	sites
Number of Brownfields properties assessed.	983	1,000	1,000	assessments
Number of properties cleaned up using Brownfields funding.			no target	properties
Number of high priority RCRA facilities with human exposures to toxins controlled.	205	257	180	facilities
Number of high priority RCRA facilities with toxic releases to groundwater controlled.	171	172	150	facilities

Baseline: By FY 2002, there have been 7,119 Superfund removal response actions initiated, 37,669 final Superfund site assessment decisions, and 2,824 Brownfields properties assessed. (Brownfields assessment data reflects accomplishments up to the 3rd quarter of FY 2002.) There is a baseline count of 1,199 Superfund sites with human exposures controlled and 772 Superfund sites with groundwater migration controlled. FY 2002 actuals showed 1018 RCRA facilities with human exposures to toxins controlled and 877 RCRA facilities with toxic releases to groundwater controlled; 284,602 leaking underground storage tank cleanups. Baseline data for Brownfields cleanup loans and grants will be developed in FY 2003.

Revitalize Properties

- In 2004 Create jobs through revitalization efforts.
- In 2004 Leverage or generate funds through revitalization efforts.
- In 2004 Make Brownfields property acres available for reuse or continued use.
- In 2003 Create jobs through revitalization efforts.
- In 2003 Leverage or generate \$0.9 B through revitalization efforts.
- In 2002 \$0.7 billion of cleanup and redevelopment was leveraged.
- In 2002 2,091 jobs were generated from Brownfields activities.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Estimated number of Brownfield property acres available for reuse or continued use.			no target	acres
Number of jobs generated from Brownfields activities.	2091	2,000	5,000	jobs
Number of Brownfields job training participants trained.			200	participants
Percentage of Brownfields job training trainees placed.		65	70	trainees placed
Amount of cleanup and redevelopment funds leveraged at Brownfields sites.	\$0.7B	\$0.9B	\$1.0B	funds

Baseline: By the end of FY 2002, the Brownfields program had generated 19,646 jobs, provided job training to 913 individuals, placed an average of 65% of job training participants, and leveraged a total of \$6.7 billion. Data reported for FY 2002 reflect accomplishments up to the 3rd quarter of FY 2002.

Homeland Security - Readiness & Response

- In 2004 Enhance Homeland Security readiness and response.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percentage of emergency response and homeland security			10%	readiness

Performance Measures:	FY 2002	FY 2003	FY 2004
	Actuals	Pres. Bud.	Request

readiness improvement.

Baseline: In accordance with the EPA strategic plan, a baseline will be established in FY 2003.

Research

Scientifically Defensible Decisions for Site Clean

- In 2004 Provide risk assessors and managers with site-specific data sets on three applications detailing the performance of conventional remedies for contaminated sediments to help determine the most effective techniques for remediating contaminated sites and protecting human health and the environment.
- In 2003 To ensure cost-effective and technically sound site clean-up, deliver state-of-the-science reports and methods to EPA and other stakeholders for risk management of fuel oxygenates; organic and inorganic contamination of sediments, ground water and/or soils; and oil spills.
- In 2002 EPA provided evaluation information on six innovative approaches that reduce human health and ecosystem exposure from dense nonaqueous phase liquids (DNAPLs) and methyl tertiary butyl-ether (MTBE) in soils and groundwater, and from oil and persistent organics in aquatic systems.

Performance Measures:	FY 2002	FY 2003	FY 2004	
	Actuals	Pres. Bud.	Request	
Complete draft of the FY 2002 Annual SITE Report to Congress.	1	1		draft report
Reports on performance data for conventional sediment remedies for three sites.			3	reports

Baseline: Much of the controversy over selecting remedies for contaminated sediment sites arises because the effects and effectiveness of the remedies is not well documented. Congress identified this issue when it directed EPA to have the National Academy of Science conduct a study of the "...availability, effectiveness, costs, and effects of technologies for the remediation of sediments contaminated with polychlorinated biphenyls (PCBs), including dredging and disposal." The resulting National Research Council (NRC) report included a major recommendation that "Long-term monitoring and evaluation of PCB-contaminated sediment sites should be conducted to evaluate the effectiveness of the management approach and to ensure adequate, continuous protection of humans and the environment." In FY 2004, EPA will complete data sets on implementing and monitoring remedies in order to help reduce the uncertainty associated with remedy selection and to identify the methods that efficiently chart remedy performance over time.

Homeland Security-Building Decontamination Research

- In 2004 Provide to building owners, facility managers, and others, methods, guidance documents, and technologies to enhance safety in large buildings and to mitigate adverse effects of the purposeful introduction of hazardous chemical or biological materials into indoor air.

Performance Measures:	FY 2002	FY 2003	FY 2004	
	Actuals	Pres. Bud.	Request	
Prepare ETV evaluations on at least 5 new technologies for detection, containment, or decontamination of chemical/biological contaminants in buildings to help workers select safe alternatives.			5	verifications
Through SBIR awards, support as least three new technologies/methods to decontaminate HVAC systems in smaller commercial buildings or decontaminate valuable or irreplaceable materials.			3	techs/methods
Prepare technical guidance for building owners and facility managers on methods/strategies to minimize damage to buildings from intentional introduction of biological/chemical contaminants.			9/30/04	guidance

Baseline: Anthrax contamination and the extensive clean-up efforts in postal facilities plus several other government and commercial buildings emphasized the need for improved methods to enhance security against terrorist activities in buildings and provide additional options for cleaning up buildings. EPA's two-year plan focuses on research, development, testing, and communication of enhanced methods for detection and containment of biological and chemical warfare agents and toxic industrial chemicals intentionally introduced into large buildings. This plan also addresses decontamination of building surfaces, furnishings, and equipment, with safe disposal of residual materials. Every effort is being made to coordinate EPA's work with other government agencies, to avoid redundancy and to maximize the utility of this work. With the FY 2004 building

decontamination research, emergency responders, building owners/managers, and decontamination crews will have information, including guidance documents and technology evaluations, needed to enhance safety in buildings and to mitigate adverse effects of the purposeful introduction of hazardous chemicals or biological materials into indoor air.

Program Assessment Rating Tool

Leaking Underground Storage Tanks

As part of the Administration's overall evaluation of effectiveness of Government programs, the Leaking Underground Storage Tanks program was evaluated with the following specific findings:

1. The program purpose, to clean up leaking underground storage tanks, is clearly defined and is understood by states and other stakeholders.
2. The program is well managed, but would benefit from regular independent evaluations and a systematic process to review strategic planning.
3. Strategic planning is particularly critical to this program since it has already achieved its current long term goal and has no new long-term goal to challenge program managers. EPA may finish the backlog of 140,000 cleanups within the next decade. In the future, a smaller program may be suitable to address the lesser number of new releases that occur every year.
4. The program appears to be successful, as evidenced by achieving the goals of its authorizing legislation: cleanup of releases and upgrading tanks. However, the program scores poorly on the results section since it has no outcome based performance metrics that demonstrate an impact on people and the environment.

In response to these findings, the Administration will:

1. Continue to clean storage tank sites at a rapid pace.
2. Develop outcome measures that will test the link between the activities of the program and the impact on human health and the environment.

Superfund Removal

As part of the Administration's overall evaluation of effectiveness of Government programs, the Superfund Removal program was evaluated with the following specific findings:

1. The program's purpose, to perform emergency cleanup of hazardous materials, is very clearly defined and understood by states and stakeholders.
2. The program would benefit from regular independent evaluations and a systematic process to review strategic planning.
3. The program meets its targets for number of removals each year, an output measure. However, the program scores poorly on the Results/Accountability section since

it has no outcome based performance metrics that demonstrate the extent of the impact on public health and the environment.

4. There are no efficiency measures and the development requires overcoming significant data issues, namely, poor historic data quality in EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database.

In response to these findings, the Administration will:

1. Propose funding at the 2003 President's Budget level.
2. Develop outcome oriented measures that test the linkage between program activities and the impact on human health and the environment.
3. Improve data quality in the CERCLIS database.

Verification and Validation of Performance Measures

FY 2004 Performance Measures:

- **Superfund Construction completions**
- **Number of Superfund removal response actions initiated**
- **Number of Superfund final site assessment decisions**
- **Number of Superfund hazardous waste sites with human exposures controlled**
- **Number of Superfund hazardous waste sites with groundwater migration controlled**
- **Number of Superfund site assessments conducted at sites that are of concern to Tribes**
- **Number of Tribes supported by Superfund cooperative agreements**
- **Amount of Superfund funding provided for building Tribal capacity**
- **Percentage of Superfund sites that are of concern to Tribes where a tribe is actively involved**

Performance Database: The Comprehensive Environmental Response, Compensation, and Liability System (CERCLIS) is the database used by the Agency to track, store, and report Superfund site information.

Data Source: Automated EPA system; headquarters and regional offices enter data into CERCLIS on a rolling basis.

Methods, Assumptions and Suitability: Each performance measure is a specific variable within CERCLIS.

QA/QC Procedures: To ensure data accuracy and control, the following administrative controls are in place: 1) Superfund/Oil Implementation Manual (SPIM), the program management manual that details what data must be reported; 2) Report Specifications, which are published for each report detailing how reported data are calculated; 3) Coding Guide, which contains technical instructions to such data users as regional Information Management Coordinators (IMCs), program personnel, report owners, and data input personnel; 4) Quality Assurance (QA) Unit Testing, an extensive QA check against report specifications; 5) Regional CERCLIS Data Entry Internal Control Plan, which includes: (a) regional policies and procedures for entering data into CERCLIS; (b) a review process to ensure that all Superfund accomplishments are supported by source documentation; (c) delegation of authorities for approval of data input into CERCLIS; and (d) procedures to ensure that reported accomplishments meet accomplishment definitions; and (6) a historical lockout feature that has been added to CERCLIS so that changes in past fiscal year data can be changed only by approved and designated personnel and are logged to a change-log report.

Data Quality Reviews: Two audits, one by the Office Inspector General (OIG) and the other by Government Accounting Office (GAO), were done to assess the validity of the data in CERCLIS. The OIG audit report, *Superfund Construction Completion Reporting* (No. E1SGF7_05_0102_8100030), dated December 30, 1997, was prepared to verify the accuracy of the information that the Agency was providing to Congress and the public. The OIG report concluded that the Agency "has good management controls to ensure accuracy of the information that is reported," and "Congress and the public can rely upon the information EPA provides regarding construction completions." Further information on this report are available at <http://www.epa.gov/oigearth/eroom.htm>. The GAO's report, *Superfund Information on the Status of Sites* (GAO/RECD-98-241), dated August 28, 1998, was prepared to verify the accuracy of the information in CERCLIS on sites' cleanup progress. The report estimates that the cleanup status of National Priority List sites reported by CERCLIS as of September 30, 1997, is accurate for 95% of the sites. Additional information on the *Status of Sites* may be obtained by visiting <http://www.gao.gov>. A third OIG audit, *Information Technology - Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Data Quality* (Report No. 2002-P-00016), dated September 30, 2002, evaluated the accuracy, completeness, timeliness, and consistency of the data entered into CERCLIS. The weaknesses identified were caused by the lack of an effective quality assurance process and adequate internal controls for CERCLIS data quality. The report provided 11 recommendations to improve controls for CERCLIS data quality. OSWER concurs with the recommendations contained in the audit. Due to the extended period of time since the inception of this audit, many of the identified problems have been corrected or actions that would address these recommendations are underway. Additional information about this report is available at <http://www.epa.gov/oigearth/eroom.htm>.

The IG reviews annually the end-of-year Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) data, in an informal process, to verify the data supporting the performance measures. Typically, there are no published results.

The Quality Management Plan (QMP) for the Office of Solid Waste and Emergency Response (OSWER) is currently under review by the Office of Environmental Information.

Data Limitations: Weakness were identified in the OIG audit, *Information Technology - Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Data Quality* (Report No. 2002-P-00016), dated September 30, 2002. The weaknesses identified were caused by the lack of an effective quality assurance process and adequate internal controls over CERCLIS data quality. The report provided 11 recommendations with which OSWER concurs. Many of the identified problems have been corrected or actions that would address these recommendations are underway, e.g., 1) FY 02/03 SPIM Chapter 2 update; 2) draft guidance from OCA subgroup and 3) Pre-CERCLIS Screening: A Data Entry Guide. The development and implementation of a quality assurance process for CERCLIS data is planned to begin February 2003 which will clearly delineate quality assurance responsibilities and periodically select random samples of CERCLIS data elements and verify the data to source documents in site files.

Error Estimate: The GAO's report, "*Superfund Information on the Status of Sites*" (GAO/RECD-98-241), dated August 28, 1998, estimates that the cleanup status of National Priority List sites reported by CERCLIS is accurate for 95% of the sites.

New/Improved Data or Systems: In 2004, the Agency will continue its efforts begun in 1999 to improve the Superfund program's technical information by incorporating more site remedy selection, risk, removal response, and community involvement information into CERCLIS. Efforts to share information among the Federal, state, and Tribal programs to further enhance the Agency's efforts to efficiently identify, evaluate and remediate Superfund hazardous waste sites will continue. In 2005 the Agency will also establish data quality objectives for program planning purposes and to ascertain the organization's information needs for the next 5 years. Adjustments will be made to EPA's current architecture and business processes to better meet those needs. A CERCLIS modernization effort is currently underway to enhance CERCLIS with a focus on data collection and data analysis and how to best satisfy the current needs of the Superfund program. The Superfund eFacts system is a vital part of the CERCLIS modernization efforts. The Superfund eFacts system is an e-Government solution design to give EPA management and staff quick and easy access to important milestones relating to various aspects of the Superfund program.

References: References include OIG audit reports, *Superfund Construction Completion Reporting*, (No. E1SGF7_05_0102_8100030) and *Information Technology - Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Data Quality*, (No. 2002-P-00016), <http://www.epa.gov/oigearth/erom.htm>; and the GAO report, *Superfund Information on the Status of Sites* (GAO/RECD-98-241), <http://www.gao.gov>. Other references include the Superfund/Oil Implementation Manuals for the fiscal years 1987 to the current manual and the Annual Performance Report to Congress.

FY 2004 Performance Measures:

- **Number of Brownfields properties assessed**

- **Number of jobs generated from Brownfields activities**
- **Number of Brownfields job training participants trained**
- **Percentage of Brownfields job training trainees placed**
- **Amount of cleanup and redevelopment funds leveraged at Brownfields sites**

Performance Database: The Brownfields Management System (BMS) contains the performance information identified in the above measures.

Key fields related to performance measures include:

- AP 5 - Number of Properties with Assessment Completed with Pilot Funding
- AP 11 - Number of Cleanup/Construction Jobs Leveraged
- AP 12 - Number of Cleanup Dollars Leveraged
- AP 13 - Number of Redevelopment Jobs Leveraged
- AP 14 - Number of Redevelopment/Construction Dollars Leveraged
- JT 2 - Number of Participants Completing Training
- JT 3 - Number of Participants Obtaining Employment

Data Source: Data are extracted from quarterly reports prepared by Cooperative Agreement Award Recipients

Methods, Assumptions and Suitability:

- **Methods:** Cooperative Agreement Award Recipients submit reports quarterly on project progress. Data relevant to the performance measures are extracted from quarterly reports by EPA contractor. Data are forwarded to Regional Pilot managers for review. Following Regional review, data are finalized.
- **Assumptions:** “Number of jobs generated from Brownfields activities” is the aggregate of the “Number of redevelopment jobs leveraged” and the “Number of cleanup/construction jobs leveraged.” “Amount of cleanup and redevelopment funds leveraged at Brownfields sites” is the aggregate of “Number of Cleanup Dollars Leveraged” and the “Number of Redevelopment/Construction Dollars Leveraged.” “Percentage of Brownfields job training trainees placed” is based on the “Number of Participants Completing Training” and the “Number of Participants Obtaining Employment.”

QA/QC Procedures: Data reported by cooperative award agreement recipients are reviewed by Regional Pilot managers for accuracy and to ensure appropriate interpretation of key measure definitions. Reports are produced monthly with detailed trends analysis.

Data Quality Reviews: None.

Data Limitations: All data provided voluntarily.

Error Estimate: N/A

New/Improved Data or Systems: The Brownfields Management System (BMS) is being migrated from a FoxPro to an oracle database.

References: N/A

FY 2004 Performance Measures:

- **High priority RCRA facilities with human exposures to toxins controlled**
- **High priority RCRA facilities with toxic releases to groundwater controlled**

Performance Database: The Resource Conservation Recovery Act Information System (RCRAInfo) is the national database which supports EPA's RCRA program.

Data Source: Data is entered by the States. A "yes" or "no" entry is made in the database with respect to meeting corrective action indicators. Supporting documentation and reference materials are maintained in regional and state files. EPA regions and authorized states enter data on a rolling basis.

Methods, Assumptions and Suitability: RCRAInfo has several different modules, including a Corrective Action Module that tracks the status of facilities that require, or may require, corrective actions. RCRAInfo contains information on entities (generically referred to as "handlers") engaged in hazardous waste (HW) generation and management activities regulated under the portion of RCRA that provides for regulation of hazardous waste. Human exposures controlled and toxic releases to groundwater controlled are used to summarize and report on the facility-wide environmental conditions at the RCRA Corrective Action Program's highest priority facilities. The environmental indicators are used to track the RCRA program's progress in getting highest priority contaminated sites under control. Known and suspected sitewide conditions are evaluated using a series of simple questions and flow-chart logic to arrive at a reasonable, defensible determination. These questions were issued as a memorandum titled: Interim Final Guidance for RCRA Corrective Action Environmental Indicators, Office of Solid Waste, February 5, 1999. Lead regulators for the site (authorized state or EPA) make the environmental indicator determination; however, facilities or their consultants may assist EPA in the evaluation by providing information on the current environmental conditions.

QA/QC Procedures: States and Regions generate the data and manage data quality related to timeliness and accuracy (i.e., the environmental conditions and determinations are correctly

reflected by the data). Within RCRAInfo, the application software enforces structural controls that ensure that high-priority national components of the data are properly entered. RCRAInfo documentation, which is available to all users on-line, provides guidance to facilitate the generation and interpretation of data. Training on use of RCRAInfo is provided on a regular basis, usually annually, depending on the nature of systems changes and user needs.

Note: Access to RCRAInfo is open only to EPA Headquarters, Regional, and authorized State personnel. It is not available to the general public because the system contains enforcement sensitive data. The general public is referred to EPA's Envirofacts Data Warehouse to obtain filtered information on RCRA-regulated hazardous waste sites: oaspub.epa.gov/enviro/ef_home2.waste

Data Quality Review: GAO's 1995 Report on EPA's Hazardous Waste Information System (<http://frwebgate.access.gpo.gov/>) reviewed whether national RCRA information systems support EPA and the states in managing their hazardous waste programs.

Data Limitations: No data limitations have been identified. As discussed above, environmental indicator determinations are made by the authorized states and EPA regions based on a series of standard questions and entered directly into RCRAInfo. EPA has provided guidance and training to states and regions to help ensure consistency in those determinations. High priority facilities are monitored on a facility-by-facility basis and the QA/QC procedures identified above are in place to help ensure data validity.

Error Estimate: N/A. Currently, the Office of Solid Waste does not collect data on estimated error rates.

New/Improved Data or Systems: EPA has successfully implemented new tools for managing environmental information to support Federal and state programs, replacing the old data systems (the Resource Conservation and Recovery Information System and the Biennial Reporting System) with RCRAInfo. RCRAInfo allows for tracking of information on the regulated universe of RCRA hazardous waste handlers, such as facility status, regulated activities, and compliance history. The system also captures detailed data on the generation of hazardous waste from large quantity generators and on waste management practices by treatment, storage, and disposal facilities. RCRAInfo is web-accessible, providing a convenient user interface for Federal, state and local managers, encouraging development of in-house expertise for controlled cost, and using commercial off-the-shelf software to develop reports from database tables.

References: GAO's 1995 Report on EPA's Hazardous Waste Information System reviewed whether national RCRA information systems support EPA and the states in managing their hazardous waste programs. Recommendations coincide with ongoing internal efforts (WIN/Informed) to improve the definitions of data collected, ensure that data collected provide critical information and minimize the burden on states. This historical document is available on the Government Printing Office Website (<http://frwebgate.access.gpo.gov/>)

FY 2004 Performance Measures:

- **Number of leaking underground storage tank cleanups completed**

- **Number of leaking underground storage tank cleanups in Indian Country**

Performance Database: The Office of Underground Storage Tanks (OUST) does not maintain a national database. There is a new performance measure (estimated number of leaking underground storage tank site acres available for reuse or continued use). In FY 2004, OUST will begin to implement this new measure.

Data Source: Designated State agencies submit semiannual progress reports to the EPA regional offices. The new measure will require modification to the existing database systems to track the new measure rather than create a new database.

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: EPAÆs regional offices verify and then forward the data to headquarters. HeadquartersÆ staff examine the data and resolve any discrepancies with the regional offices. The data are displayed on a region-by-region basis, which allow regional staff to verify their data.

Data Quality Review: None.

Data Limitations: Data quality is dependent on the accuracy and completeness of state records.

Error Estimate: N/A

New/Improved Data or Systems: None.

References: FY 2002 End-of-Year Activity Report, December 22, 2002 (updated semi-annually).

FY 2004 Performance Measure: Tribes evaluated for RCRA Subtitle C management needs

Performance Database: There is no database for this measure.

Data Source: Various formats reported to headquarters from EPA Regional offices.

Methods, Assumptions and Sustainability: A variety of data collection methods are used for tracking this measure. Some EPA Regions visit Tribal lands and map RCRA facility locations with global positioning satellite tools while other Regions conduct “desk top” evaluations based on information reported to them by Tribal governments within their Region. Headquarters assumes that EPA Regional programs are reporting accurate information.

QA/QC Procedures: Data will be reviewed by Tribal governments reported to have hazardous waste management needs.

Data Quality Review: Data will be reviewed by Tribal governments reported to have hazardous waste management needs.

Data Limitations: “Desk top” evaluations may miss hazardous waste management needs for Tribes that have not reported their concerns to EPA Regional offices. Each EPA Region office may employ different definitions for what constitutes a “hazardous waste management need.”

Error Estimate: N/A.

New/Improved Data or Systems: Concurrent with this performance measure, the Agency will continue its efforts to clarify what types of hazardous waste management needs exist throughout Indian Country, including an identification of where EPA has direct implementation requirements for the regulation of RCRA facilities. Ultimately, information gathered from this effort may help improve the RCRAInfo database system.

References: oaspub.epa.gov/enviro/ef_home2.waste; refer to EPA’s Envirofacts database for information on RCRA-regulated hazardous waste sites on Tribal lands.

FY 2004 Performance Measure: Purchase and Deploy State-of-the-Art Monitoring Units

Performance Database: Output measure. Data from the National Radiation Monitoring System will be stored in an internal EPA database operated by the National Air and Radiation Environmental Laboratory (NAREL) in Montgomery, Alabama. EPA monitors for radiation to provide data for nuclear emergency response assessments; to provide data on ambient levels of radiation in the environment for baseline and trend analysis; and to inform the general public and public officials.

Data Source: National Radiation Monitoring System. Monitoring units will be located in the 60 largest population centers in the United States. Criteria for locating monitoring units, other than based on population, will include whether an area is at high risk for a nuclear emergency or if it is near to another population center (e.g., Dallas and Fort Worth).

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Performance Data or Systems: N/A

References: Information about the continuous monitoring system, ERAMS, is available on the Internet: <http://www.epa.gov/narel/erams/aboutus.html#mission>

FY 2004 Performance Measure (PM): Refer to DOJ, settle, or writeoff 100% of Statute of Limitations (SOLs) cases for Superfund sites with total unaddressed past costs equal to or greater than \$200,000 and report value of costs recovered.

Performance Database: Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)

Data Source: Automated EPA system; headquarters and EPA's regional offices enter data into CERCLIS

Methods, Assumptions and Suitability: The data used to support this measure are collected on a fiscal year basis only. Enforcement reports are run at the end of the fiscal year, and the data that supports this measure are extracted from the report.

QA/QC Procedures: Office of Site Remediation Enforcement (OSRE) Quality Management Plan, approved April 11, 2001. To ensure data accuracy and control, the following administrative controls are in place: 1) Superfund/Oil Implementation Manual (SPIM), a program management manual that details what data must be reported; 2) Report specifications, which are published for each report detailing how reported data are calculated; 3) Coding Guide, which contains technical instructions to such data users as regional Information Management Coordinators (IMCs), program personnel, report owners, and data input personnel; 4) Quality Assurance (QA) Unit Testing, an extensive QA check against report specifications; 5) QA Third Party Testing, an extensive test made by an independent QA tester to ensure that the report produces data in conformance with the report specifications; 6) Regional CERCLIS Data Entry Internal Control Plan, which includes: a) regional policies and procedures for entering data into CERCLIS, b) a review process to ensure that all Superfund accomplishments are supported by source documentation, c) delegation of authorities for approval of data input into CERCLIS, and, d) procedures to ensure that reported accomplishments meet accomplishment definitions; and 7) a historical lockout feature that has been added to CERCLIS so that changes in past fiscal year data can be changed only by approved and designated personnel and are logged to a change-log report.

Data Quality Review: The IG annually reviews the end-of-year CERCLA data, in an informal process, to verify the data supporting the performance measure. Typically, there are no published results.

Data Limitations: None

Error Estimate: N/A

New/Improved Data or Systems: None

References: Office of Site Remediation Enforcement (OSRE) Quality Management Plan, approved April 11, 2001

FY 2004 Congressional Performance Measure (PM): PRPs conduct 70 percent of the work at new construction starts.

Performance Database: Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS).

Data Source: Automated EPA system; headquarters and regional offices enter data into CERCLIS

Methods, Assumptions and Suitability: There are no analytical or statistical methods used to collect the information. The data used to support this measure is collected on a fiscal year basis only. Enforcement reports are run at the end of the fiscal year, and the data that supports this measure is extracted from the report.

QA/QC Procedures: Office of Site Remediation Enforcement (OSRE) Quality Management Plan, approved April 11, 2001. To ensure data accuracy and control, the following administrative controls are in place: 1) Superfund/Oil Implementation Manual (SPIM), a program management manual that details what data must be reported; 2) Report Specifications, which are published for each report detailing how reported data are calculated; 3) Coding Guide, which contains technical instructions to such data users as regional Information Management Coordinators (IMCs), program personnel, report owners, and data input personnel; 4) Quality Assurance (QA) Unit Testing, an extensive QA check against report specifications; 5) QA Third Party Testing, an extensive test made by an independent QA tester to ensure that the report produces data in conformance with the report specifications; 6) Regional CERCLIS Data Entry Internal Control Plan, which includes: a) regional policies and procedures for entering data into CERCLIS, b) a review process to ensure that all Superfund accomplishments are supported by source documentation, c) delegation of authorities for approval of data input into CERCLIS, and, d) procedures to ensure that reported accomplishments meet accomplishment definitions; and 7) a historical lockout feature that has been added to CERCLIS so that changes in past fiscal year data can be changed only by approved and designated personnel and are logged to a change-log report.

Data Quality Review: The IG annually reviews the end-of-year CERCLA data, in an informal process, to verify the data supporting the performance measure. Typically, there are no published results.

Data Limitations: None

Error Estimate: N/A

New/Improved Data or Systems: None

References: Office of Site Remediation Enforcement (OSRE) Quality Management Plan, approved April 11, 2001.

FY 2004 Performance Measure: Reports on performance data for conventional sediment remedies for three sites.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: Reports

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2004 Performance Measure: Prepare Environmental Technology Verification (ETV) evaluations on at least 5 new technologies for detection, containment, or decontamination of chemical/biological contaminants in buildings to help workers select safe alternatives.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures:

Verifications consist of the following steps:

1. based on generic verification protocols if available, the specific test/QA plan for each product is developed and agreed to by EPA, the testing partner, and the vendors;
2. the product is tested using the procedures outlined in the test/QA plan;
3. audits of the test event are conducted by EPA and the partners, and rigorous QA evaluations of the resulting test data are performed;
4. after testing and analysis, the partner drafts the verification statements and reports which are reviewed by EPA, the participating vendors, and peer reviewers; and
5. after addressing review comments and receiving approval from EPA management, EPA and the partner sign the verification statements.

Data Quality Reviews: Verifications

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2004 Performance Measure: Through SBIR awards, support at least three new technologies/methods to decontaminate HVAC systems in smaller commercial buildings or decontaminate valuable or irreplaceable materials.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: SBIR awards

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2004 Performance Measure: Prepare technical guidance for building owners and facility managers on methods/strategies to minimize damage to buildings from intentional introduction of biological/chemical contaminants.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: Guidance

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

Coordination with Other Agencies

LUST

EPA, with very few exceptions, does not perform the cleanup of leaking underground storage tanks (LUST). States and territories use the LUST Trust Fund to administer their corrective action programs, oversee cleanups by responsible parties, undertake necessary enforcement actions, and pay for cleanups in cases where a responsible party cannot be found or is unwilling or unable to pay for a cleanup. Most states have cleanup funds that cover the majority of owners and operators' cleanup costs. These state funds are separate from the LUST Trust Fund.

State LUST programs are key to achieving the objectives and long-term strategic goals. Except in Indian Country, EPA relies on state agencies to implement the LUST program, including overseeing cleanups by responsible parties and responding to emergency LUST releases. LUST cooperative agreements awarded by EPA are directly given to the states to assist them in implementing their oversight and programmatic role.

Superfund

The Superfund program coordinates with many other Federal and state agencies in accomplishing its mission. Executive Order 12580 delegates certain authorities for implementing Superfund to other Federal agencies. Many of these agencies perform, in close consultation and coordination with EPA, essential services in areas where the Agency does not possess the specialized expertise. Currently, EPA has active interagency agreements with the Department of Interior (DOI), the National Oceanic and Atmospheric Administration (NOAA), the Federal Emergency Management Agency (FEMA), the Occupational Safety and Health Administration (OSHA), and the United States Coast Guard (USCG).

These agencies provide numerous Superfund related services such as supporting the national response system by providing emergency preparedness expertise and administrative support to the national response team and the regional response teams; conducting compliance assistance visits to review site safety and health plans and developing guidelines for assessing safety and health at hazardous waste sites; conducting outreach to states, Indian Tribes and Federal natural resource trustee officials regarding natural resource damage assessments; providing scientific support for response operations in EPA's regional offices; assisting in the coordination among Federal and state natural resource trustee agencies; supporting the Superfund program in the management and coordination of training programs for local officials through the Emergency Management Institute and the National Fire Academy; and responding to actual or potential releases of hazardous substances involving the coastal zones, including the Great Lakes and designated inland river ports; and litigating and settling cleanup agreements and cost recovery cases. In addition, the Agency coordinates with the United States Army Corp of Engineers (USACE), states, and Tribes in the identification and cleanup of approximately 9,100 FUDs nationwide. Expectations are that the Agency will play an even greater role at these sites in the future.

USACE and the Bureau of Reclamation contribute to the cleanup of Superfund sites by providing technical support for the design and construction of many remediation projects through site-specific interagency agreements. These Federal partners have the technical design and construction expertise and contracting capability needed to assist EPA regions in implementing most of Superfund's high-cost Fund-financed remedial action projects. These two agencies also provide technical on-site support to regions in the enforcement oversight of numerous construction projects performed by PRPs.

The Superfund response and Federal Facilities enforcement programs work closely with other Federal agencies (e.g., DOD, DOE, DOI, etc.) to clean up their facilities under the Superfund program. EPA also works with states and Indian Tribes as key partners in the cleanup decision-making process at Superfund Federal sites.

The Agency also works in partnership with state and Tribal governments to strengthen their hazardous waste programs and improve the efficiency and effectiveness of the nation's overall hazardous waste response capability. EPA assists the states in developing their CERCLA implementation programs through infrastructure support, financial and technical assistance, and training. Partnerships with states increase the number of site cleanups, improve the timeliness of responses, and make land available for economic redevelopment sooner, while allowing for more direct local involvement in the cleanup process.

EPA partners with other Federal agencies, state and local governments, and private industry to fulfill Superfund program priorities when a site is radioactively contaminated. Under CERCLA, radioactively contaminated sites are addressed in a manner consistent with how chemically contaminated sites are addressed, accounting for the technical differences. The Radiation program provides radiological scientific and technical expertise and leadership in evaluating projects and providing field and laboratory support.

Brownfields

In November 2002, EPA Administrator Christine Todd Whitman announced the Brownfields Federal Partnership Action Agenda. This involves 23 Federal agencies contributing resources and technical assistance to Brownfields redevelopment. Federal resources include: redevelopment funds from the Department of Housing and Urban Development and the Economic Development Agency; planning funds from the Economic Development Agency and job training efforts from the Department of Labor and the National Institute of Environmental Health Sciences.

EPA and these other Federal agencies will continue to provide active support for Brownfields activities across the country in FY 2004. To augment the success of the Brownfields Federal Partnership and its efforts to clean up and redevelop Brownfields properties, the Agency and its Federal partners continue to revise and enter into new Memoranda-of-Understanding.

The Brownfields program also relies on partnership building with local government, state, and non-government groups to leverage Federal funding with private sector funding. As part of the Brownfields initiative, EPA will continue to provide outreach, curriculum

development, job training, and technical assistance to community residents through cooperative agreements to community-based organizations, community colleges, universities, and private sector non-profit groups. The Agency also works with cities, states, Federally recognized Indian tribes, community representatives, and other stakeholders to implement the many commitments. Successful Brownfields redevelopment is proof that economic development and environmental protection go hand in hand.

RCRA

The Agency maintains a close relationship with the state agencies that are authorized to implement the Resource Conservation and Recovery Act (RCRA) corrective action program. EPA expects states to achieve the same level of Federal standards as the Agency, including annual performance goals of human exposures and groundwater releases controlled. As part of the state grant process, Regional offices negotiate with the states their progress set in meeting the corrective action environmental indicator goals.

Encouraging states to become authorized for the RCRA Corrective Action program remains a priority. Currently, thirty-nine states and territories have the authority to implement the program. EPA expects several additional states to gain authorization in the next one to two years. EPA also encourages states to use alternate (non-RCRA) authorities to accomplish the goals of the corrective action program. These include state Superfund and voluntary programs.

The RCRA Corrective Action program also coordinates closely with other Federal agencies, primarily the Department of Defense and Energy, which have many sites in the corrective action universe. Encouraging Federal facilities to meet environmental indicators remains a top priority.

Research

EPA expends substantial effort coordinating with other agencies to conduct risk management and assessment research. These activities include work with the Department of Defense (DOD) in its Strategic Environmental Research and Development Program and the Environmental Security Technology Certification Program, the Department of Energy (DOE), and the Office of Health and Environmental Research. EPA also conducts collaborative field demonstrations (e.g., through the SITE program) and laboratory research with DOD, DOE, the Department of Interior (particularly the U.S. Geological Survey - USGS), and the National Aeronautics and Space Administration (NASA) to improve characterization and risk management options for dealing with subsurface contamination. Collaborations with external organizations provide the Agency with more opportunity to understand and address a variety of complex waste/site characterization and remediation problems and, consequently, improve the Agency's ability to meet its objective of quicker and more cost-effective site cleanups. A collaborative DNAPL remediation alternatives demonstration among EPA, DOE, and NASA, begun in 1995, led to formation of the Federal DNAPL Technology Initiative.

Other research efforts involving coordination include the unique controlled-spill field research facility that was designed in cooperation with the U.S. Bureau of Reclamation. Geophysical research experiments and development of software for subsurface characterization

and detection of contaminants are being conducted with the USGS and DOE's Lawrence Berkeley National Laboratory. These experiments include the use of a controlled spill unit in which solvents can be spilled and their subsequent movement is monitored using experimental ground penetrating radar, borehole dielectric techniques, complex resistivity, seismic techniques, and electromagnetic techniques.

The USGS also has a number of programs, such as the Toxic Substances Hydrology Program, that support studies related to contamination of surface water and groundwater by hazardous materials. Groundwater modeling and remediation of MTBE is being conducted in collaboration with a number of states, including New York, Oklahoma, and California. Also, Remediation Technology Development Forum (RTDF) teams on such topics as bioremediation, metal treatment, and contaminated sediments have been formed to conduct collaborative research programs addressing priority technical issues.

The Agency is also working with the National Institute of Environmental Health Sciences (NIEHS) to advance fundamental Superfund research. NIEHS manages a large basic research program focusing on Superfund issues. Also, the Agency for Toxic Substances and Disease Registry (ATSDR) was established to provide critical health-based information to assist EPA in making effective cleanup decisions. EPA works with these agencies on collaborative projects, information exchange, and identification of research issues.

The Interstate Regulatory Cooperative (ITRC) has proven a good forum for coordinating Federal and state activities and for defining continuing research needs through its teams on topics including contaminated sediments, permeable reactive barriers, radionuclides, and brownfields.

Statutory Authorities

Solid Waste Disposal Act as amended by Hazardous and Solid Waste Amendments of 1984 to the Resource Conservation and Recovery Act of 1976

The Small Business Liability Relief and Brownfields Revitalization and Environmental Restoration Act (Public Law 107-118) authorized the cleanup of petroleum sites.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 U.S.C. 9601-9657

Defense Base Closure and Realignment Act of 1990, and the Defense Authorization Amendments and Base Realignment and Closure Act (BRAC) of 1990, Section 2905(a)(1)(E) (10 U.S.C. 2687 Note).

Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)

Oil Pollution Act 33 U.S.C.A.

Community Environmental Response Facilitation Act (CERFA)

National Environmental Policy Act (NEPA)

Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. (1970), and Reorganization Plan #3 of 1970

Uranium Mill Tailings Radiation Land Withdrawal Act of 1978

Public Health Service Act, as amended, 42 U.S.C. 201 et seq.

Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, 42 U.S.C. 5121 et seq.

Safe Drinking Water Act, 42 U.S.C. 300F et seq. (1974)

Executive Order 12241 of September 1980, National Contingency Plan, 3 CFR, 1980

Executive Order 12656 of November 1988, Assignment of Emergency Preparedness Responsibilities, 3 CFR, 1988

Research

Comprehensive Environmental Response, Compensation, and Liabilities Act (CERCLA)

Resource Conservation and Recovery Act (RCRA)

Oil Pollution Act (OPA)

Brownfields Revitalization and Environmental Restoration Act

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response

Objective: Regulate Facilities to Prevent Releases

By 2005, EPA and its Federal, state, Tribal, and local partners will ensure that more than 277,000 facilities are managed according to the practices that prevent releases to the environment.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Regulate Facilities to Prevent Releases	\$164,641.2	\$167,261.2	\$168,479.9	\$1,218.7
Environmental Program & Management	\$100,715.9	\$103,863.6	\$103,187.8	(\$675.8)
Hazardous Substance Superfund	\$251.7	\$226.3	\$232.5	\$6.2
Oil Spill Response	\$13,292.0	\$14,166.0	\$14,789.4	\$623.4
Science & Technology	\$11,021.0	\$9,548.7	\$10,782.0	\$1,233.3
State and Tribal Assistance Grants	\$39,360.6	\$39,456.6	\$39,488.2	\$31.6
Total Workyears	754.9	800.4	791.6	-8.8

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Civil Enforcement	\$1,512.0	\$1,538.6	\$1,588.2	\$49.6
Community Right to Know (Title III)	\$4,968.4	\$4,953.1	\$5,018.3	\$65.2
Compliance Assistance and Centers	\$264.8	\$271.4	\$279.9	\$8.5

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Congressionally Mandated Projects	\$2,100.0	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and Operations	\$9,712.1	\$10,182.4	\$10,066.3	(\$116.1)
Hazardous Waste Research	\$9,088.3	\$9,548.7	\$10,782.0	\$1,233.3
Homeland Security-Preparedness, Response and Recovery	\$7.0	\$0.0	\$0.0	\$0.0
Legal Services	\$2,451.1	\$2,633.3	\$2,728.1	\$94.8
Management Services and Stewardship	\$2,135.7	\$2,316.8	\$1,573.8	(\$743.0)
Oil Spills Preparedness, Prevention and Response	\$11,795.4	\$12,332.2	\$12,897.5	\$565.3
Planning and Resource Management	\$0.0	\$0.0	\$449.1	\$449.1
RCRA Improved Waste Management	\$61,174.6	\$61,860.0	\$61,050.3	(\$809.7)
RCRA State Grants	\$27,538.2	\$27,538.2	\$27,538.2	\$0.0
Radiation	\$7,000.5	\$7,519.3	\$7,407.9	(\$111.4)
Regional Management	\$177.8	\$176.4	\$507.2	\$330.8
Risk Management Plans	\$7,202.9	\$7,446.0	\$7,489.9	\$43.9
UST State Grants	\$11,918.4	\$11,918.4	\$11,950.0	\$31.6
Underground Storage Tanks (UST)	\$6,795.7	\$7,026.4	\$7,153.2	\$126.8

FY 2004 Request

Underground Storage Tank Program

FY 2004 marks the 20th anniversary of the enactment of RCRA Subtitle I, acknowledging the problem of leaking underground storage tanks and the beginning of the Federal underground storage tank (UST) program. In FY 2004, the Agency's goal for the UST program is to protect our nation's groundwater by continuing to work in partnership with states to promote compliance with regulatory requirements to prevent, detect, and address releases from Federally-regulated USTs containing petroleum and hazardous substances. While the vast majority of the approximately 698,000 active tanks have the proper equipment, significant work remains to ensure UST owners and operators properly maintain and operate these USTs. The Agency's primary role is working with states to promote compliance with leak detection, spill, overfill, and corrosion protection requirements and ensuring that compliance with these

requirements are emphasized as a national priority. The Agency's role extends to all Federally regulated UST systems, including those on private and public property, Tribal lands, and Federal facilities.

Continuing to improve owners' and operators' compliance with the UST regulations is one of the Agency's national initiatives. The Agency will build upon its work with states to achieve improved compliance, to decrease the number of confirmed releases reported annually by states, and to revise the definition of significant operational compliance in order to produce more accurate and nationally consistent data regarding compliance with UST requirements. It is expected that all states will have full-scale implementation of the revised definition in FY 2004. Additionally, EPA is consolidating the two existing significant operational compliance measures into one measure which will further impact the projected baseline and targets. The consolidation of the two measures into one overall measure will provide a better picture of compliance. As a result, an appropriate baseline and target for the significant operational compliance measure will not be available until FY 2005. In the interim, by the end of FY 2003, preliminary results from a pilot initiated in FY 2002 to evaluate the revised definition and consolidated measures are expected. The Agency will work with states to obtain commitments to increase their inspection and enforcement presence if state-specific targets are not met. The Agency and the states will use innovative outreach and education tools such as multi-site agreements with Federal, state, municipal, Tribal, or private UST owners to bring more tanks into compliance. An example of a multi-site agreement is when a single tank owner with multiple sites agrees to bring all sites into compliance and keep them in compliance. The Agency will also provide technical assistance tools, improved guidance and training to UST owners, operators and inspectors to foster improved operational compliance with the requirements and to decrease the number of confirmed releases reported annually by states.

In FY 2004, the Agency will update available information about the performance of new or upgraded UST systems to determine how well existing systems are preventing and detecting releases, analyze leak autopsy data to quantify the frequency of releases by source and cause, foster long-term efforts to further analyze the performance of UST systems, and identify any needed options for improving performance. While the Federal and state UST requirements have led to substantially improved UST systems and fewer new releases, some releases from newer tanks continue to occur, as reported by the states. The Agency will continue to partner with states such as Florida and South Carolina and vendors of third party UST monitoring systems to determine the most common sources (e.g., UST system dispensers) and causes of releases from new and upgraded UST systems, as well as evaluate the performance of leak detection. Comparisons between UST components (e.g., steel vs. fiberglass tanks) and between single-walled and double-walled systems will be evaluated. Based on a 1998 EPA Report to Congress, A National Water Quality Inventory, releases from USTs are the leading cause of groundwater contamination in the country. The presence of methyl-tertiary-butyl-ether (MTBE) in gasoline increases the importance of preventing and rapidly detecting releases because MTBE cleanup can cost 100 percent more than cleanups involving other gasoline contaminants.

In FY 2004, the Agency will focus its efforts on further evaluating those components or procedures which pose the greatest continued threat to human health and the environment through UST releases or delayed detection of petroleum products, including MTBE. The Agency will also begin work to resolve the remaining problems, such as contamination through

MTBE releases, through outreach and education, training and guidance, or pursuing regulatory improvements. This work will involve substantial coordination with our state and industry partners, and will likely involve initiating and coordinating various research efforts.

EPA has the primary responsibility for implementation of the UST program in Indian Country. This responsibility requires EPA Regional offices to educate owners and operators about the UST requirements, conduct inspection and enforcement activities, and maintain a database of information on USTs located in Indian Country.

Chemical Emergency Preparedness and Prevention

The Agency's chemical emergency preparedness and prevention program seeks to decrease the risks associated with the manufacture, transportation, storage and use of hazardous chemicals. The program is primarily responsible for implementing the Risk Management Program authorities of the Clean Air Act, and the emergency preparedness authorities of the Emergency Planning and Community Right-to-Know Act (EPCRA). The program also implements right-to-know initiatives stemming from EPCRA, to inform the public about chemical hazards and supports actions at the local level to reduce risk. The cornerstone of the program is a belief that the operators of facilities who have hazardous chemicals are primarily responsible for the safe handling of those chemicals. In addition, since the risks posed by these facilities are local issues, state and local governments (as well as the community) play a critical role in risk reduction.

All Americans benefit from an effective chemical safety program because hazardous chemical substances are virtually everywhere and chemical accidents are an ever-present danger. EPA estimates that nationwide over 500,000 facilities have significant quantities of hazardous chemicals (subject to EPCRA requirements). The facilities subject to the RMP reported over 1,900 chemical release accidents of significance over the past five-year period involving deaths, injuries, significant property/environmental damage and/or evacuations/shelter-in-place.

Assisting Facilities with Their Responsibilities

Section 112(r) of the Clean Air Act requires approximately 15,000 facilities to develop comprehensive risk management plans (RMPs) and submit them to EPA, State agencies, and local emergency planning committees (LEPCs). Through this program, Federal, State, and local agencies and the general public have access to large amounts of information on the presence of chemicals in every community and the potential hazards those chemicals present.

Each RMP identifies and assesses the hazards posed by on-site chemicals. It also provides a five-year facility accident history and outlines an accident prevention program and an emergency response plan. The statutory deadline for filing RMPs was June 1999. While the numbers are still being tallied, EPA estimates that it will reach its goal of 90% compliance by the end of FY 2003. Because the statute requires RMPs to be updated every five years facilities will submit the next round of RMPs by June 21, 2004. This will increase the number of RMPs submitted to the Agency by over 10,000 reports over the previous year. This will be the first time the Agency has received such a volume of updates, and will need to manage and screen the reports in a volume similar to the initial reports in 1999.

The requirements of the Risk Management Program regulations were built on practices currently used in many industries for process safety management. Each RMP describes the process safety management systems used by a facility for preventing accidents and documents the facilities' compliance with the regulation. A program priority in FY 2004 will be to audit the quality of the risk management plans submitted, while continuing to look for facilities that have not submitted their RMPs.

The Clean Air Act requires EPA to establish a system to audit RMPs. The audit system is used to continuously improve the quality of risk management programs as well as check compliance with the requirements. EPA regional offices will continue to manage RMP programs in those states that have not accepted delegation. In FY 2004, the Agency and other implementing agencies will perform its audit obligations through a combination of desk audits of RMP plans and on-site facility inspections. A total of 400 audits will be conducted during this period. Audit selection will be based upon several criteria, including accident history, patterns of noncompliance, types and quantities of chemicals, and geographic location.

Due to the complexity and large number of RMP audits, EPA is exploring a third party audit program, where RMP facilities would be given the option to voluntarily undergo an audit by a qualified third party auditor in exchange for certain regulatory incentives, such as lower future audit and enforcement priority. Financial incentives may also exist via the participation of insurance company representatives as third party auditors (lower premiums). EPA intends to have the third party audit program operational in FY 2004.

In FY 2004, in the regulatory area, the program expects to complete the second phase of streamlining EPCRA's reporting requirements and will complete regulatory action on changes resulting from a statutorily required review of the RMP chemicals list. This review is intended to improve the scientific basis for listing chemicals, and add or delete chemicals based on the technical criteria for listing chemicals under the program.

Building State and Local Capabilities

One of EPA's vital roles is to help communities implement accident prevention and emergency preparedness programs. LEPCs (3,400, established under EPCRA) serve as the focal point for discussions on reducing chemical risks at the local level. Under the EPCRA and RMP programs, LEPCs take chemical inventory information, and information on how facilities are reducing the risk of accidents, and integrate it into their emergency plans and community right-to-know programs. In FY 2004, EPA will support LEPC efforts by providing tools, technical assistance and guidance to better enable them to use the information to reduce risks. EPA will also continue an initiative to improve and enhance emergency preparedness and prevention in Tribal communities.

State Emergency Response Commissions (SERCs) and LEPCs also play a key role in the defense against terrorism. These state and local entities serve as focal points at the local level for emergency preparedness, prevention and response activities. They are responsible for bringing together all local emergency personnel and organizations (e.g., police, fire departments, first responders, emergency planners, public health officials, hospitals, emergency technicians, industry local officials, and the news media) to develop comprehensive community plans for

dealing with the release of hazardous substances. Since September 11 SERCs and LEPCs have been tasked with assessing the hazards associated with the intentional release of chemical, biological and radiological substances and developing plans to deal with them. In FY 2004 EPA will assist SERCs and LEPCs in identifying streams of funding and provide assistance to help them secure the resources they need. EPA also supports the new Citizen Corps program and in FY 2004 will continue efforts in coordination to encourage LEPCs to consider acting as local Citizen Corp.

Under the chemical accident prevention program, EPA, in partnership with States, will promote implementation of the RMP program. The Agency believes individual States are best suited to implement the program because they benefit directly from its success. EPA also believes that as State officials see their facilities achieve compliance, they will become motivated to seek delegation. The Agency will continue to emphasize flexibility in how States will be authorized to receive delegation and eventually implement the RMP program themselves. EPA will work with States to secure agreements to partially implement the RMP program and help them to develop and manage individual program components. In addition to this effort, EPA will provide States a combination of grant assistance, technical support, training, and other outreach services to help them fully develop and receive delegation of the program. The Agency's FY 2004 goal is to persuade 2 additional states to manage an RMP program, which would bring the total number of authorized states to 20.

In an effort to help implementing agencies, states, and prospective third party auditors acquire or improve skills required to conduct audits, EPA has identified an RMP audit curriculum. The training will be offered extensively throughout the country in FY 2004.

Continuous Learning to Improve Safety

In FY 2004, EPA will continue to initiate ways of improving safety by studying hazards and providing outreach to industry, government and the public to enhance application of chemical safety measures. The program focuses on lessons learned from accidents and issues case studies and chemical safety alerts to reduce the risk of future accidents.

EPA will continue an initiative to analyze data contained in the RMPs. The Agency is examining trends and patterns in such areas as industry sector, facility size, geographic region, and chemicals. In particular, since September 11, 2001, EPA has taken the RMP information off of its website, although it may still exist on other websites. This requires EPA to perform more analyses and searches for the public. In addition, since over 10,000 RMPs will be updated around June 21, 2004 for the first time, this will provide EPA with the opportunity to analyze trends and improvements in facilities' RMP.

Relationship with Chemical Safety Board

The independent Chemical Safety Board (CSB) places responsibilities on the Agency with regard to chemical safety and accident prevention. The same Clean Air Act provisions that established the CSB require EPA to respond to the Board's recommendations and provide support for its activities. EPA has completed a memorandum of understanding with the Board in that delineates each Agency's role and working relationship. In FY 2004 EPA expects to

continue activities of responding to CSB recommendations that result from investigations. For example, EPA is currently working with the Occupational Safety and Health Administration and the CSB on two recommendations associated with reactive chemical process safety arising from the Morton International chemical accident in New Jersey.

Oil Spills

The goal of the oil spill program is to protect public health and the environment from hazards associated with a discharge or substantial threat of a discharge of oil into navigable waters, adjoining shorelines, and exclusive economic zones of the United States. Based on data obtained from the National Response Center, each year more than 24,000 oil spills occur in the United States, over half of them within the inland zone over which EPA has jurisdiction. On average, one spill of greater than 100,000 gallons occurs every month from approximately 465,000 EPA-regulated oil storage facilities and the entire oil transportation network. Oil spills contaminate drinking water supplies; cause fires and explosions; kill fish, birds, and other wildlife; destroy habitats and ecosystems; and impact the food chain. There are also serious economic consequences of oil spills because of their impact on commercial and recreational uses of water resources and cleanup costs.

The oil spill program prevents, prepares for, responds to, and monitors oil spills. EPA protects U.S. waters through oil spill prevention, preparedness, and enforcement activities associated with the 415,000 non-transportation-related oil storage facilities EPA regulates through its pollution prevention program. In addition to its pollution prevention responsibilities, EPA serves as the lead responder for the inland zone for all spills, including non-transportation-related spills from pipelines, trucks, and other transportation systems (regulated by the Department of Transportation). EPA accesses the Oil Spill Liability Trust Fund (OSLTF), administered by the United States Coast Guard, to obtain reimbursement for site-specific spill response activities.

The oil spill program establishes requirements to prevent and prepare for spills at oil storage facilities subject to its regulations. The Oil and Hazardous Substances National Contingency Plan (NCP) is the Nation's blueprint for the Federal response to discharges of oil and hazardous substances. The Spill Prevention, Control, and Countermeasures (SPCC) regulation and the Facility Response Plan (FRP) regulation chiefly compose EPA's regulatory framework. The oil spill program is also responsible for publishing the National Product Schedule and subpart J of the NCP, which is a listing of dispersants, other chemicals, and other spill mitigating devices that may be used during response to oil discharges.

All regulated oil storage facilities must prepare SPCC plans. These facilities range from hospitals and apartment complexes storing heating oil to large tank farms, any oil storage facility with an aggregate aboveground storage capacity greater than 1,320 gallons, or completely buried storage greater than 42,000 gallons (not otherwise subject to the UST program requirements). An additional 600 facilities will be in compliance with SPCC provisions in FY 2004 as a result of EPA's activities, for a cumulative total of 4,095 facilities since 1997. In addition, certain high-risk oil storage facilities must prepare FRPs to identify and ensure the availability of resources to respond to a worst case discharge, establish communications, identify an individual with authority to implement removal actions, and describe training and testing drills at the

facility. In FY 2004, EPA will review a small number of FRPs. These EPA reviews are triggered by a large spill, a spill at a particularly high-risk facility, or poor performance during an oil response exercise.

EPA also develops area contingency plans (ACPs), in conjunction with area communities (state, local and Federal officials in a given geographic location). The ACPs detail the responsibilities of various parties in the event of a response, describe unique geographical features of the area covered, and identify available response equipment and its location.

In FY 2004, EPA will continue efforts to implement the SPCC regulation. EPA revised the SPCC regulations to reflect a more performance-based rule that emphasizes industry standards. The revised regulation became effective on August 16, 2002. This approach represents a comprehensive overhaul of the basic regulatory structure of the current oil spill prevention program. In response to concerns that additional time will be required to comply with the revised regulatory requirements, EPA has initiated a formal one-year extension of the SPCC compliance deadlines. The Agency is conducting active outreach efforts to the regulated community, as well as, state and local governments, Tribal communities, and environmental groups, concerning industry compliance with the new SPCC regulation. The outreach also includes an intensive effort to respond to the numerous daily inquiries to the Oil Program staff at headquarters and the regional offices concerning the new SPCC regulation. Now that the regulation is effective, the Agency must begin training the workforce of inspectors and other staff involved in its implementation. This also includes the development of training materials and exercises to assist in compliance and enforcement of the many revisions in the new regulation. In addition to these prevention efforts, EPA will continue its preparedness efforts by focusing on development of ACPs. Response efforts include evaluating, monitoring and/or responding to all known spills within the inland waterways. Over the past six and a half years (1996 through the 3rd quarter of FY 2002), EPA has received and evaluated approximately 65,000 oil spill notifications in the inland zone and served either as lead responders or monitored/directed responsible party, state and local government oil spill response actions at approximately 2,088 oil spill incidents.

Radiation Waste Management

The Radiation program will continue to set priorities in waste management, clean material, and risk assessment, to reduce the risk to the public of excessive radiation. One of EPA's major radiation-related responsibilities is to certify that all radioactive waste shipped by the Department of Energy (DOE) to the Waste Isolation Pilot Plant (WIPP) is permanently disposed of safely and according to EPA standards. The WIPP began receiving waste for permanent disposal in 1999. Every five years, EPA must recertify the WIPP's compliance with applicable environmental laws and regulations. In FY 2004, EPA expects to receive DOE's compliance documentation and initiate the WIPP's first recertification.

EPA will continue implementing the clean materials program by working with other Federal agencies, state agencies, and international organizations to prevent metals and finished products suspected of having radioactive contamination from entering the country. EPA will also work with states, local agencies and Tribes to locate and secure lost, stolen, or abandoned radioactive sources within the United States.

EPA will continue to evaluate human health and environmental risks from radiation exposure. EPA is implementing its strategy to address Technologically Enhanced Naturally Occurring Radioactive Material (TENORM) by developing and compiling sector-specific technical information, by interacting with Regional offices and Tribal governments on educational and clean-up efforts, and by exploring ways to partner with governmental and non-governmental interests.

Resource Conservation and Recovery

The Agency's Resource Conservation and Recovery Act (RCRA) program accounts for over 6,500 of the facilities addressed by this objective. The RCRA program, working in partnership with states, industry, and Tribes, reduces the risk of human exposures to hazardous, industrial nonhazardous, and municipal solid wastes. Our most current information shows that each year communities generate approximately 230 million tons of municipal solid waste and that industries generate 40 million tons of industrial hazardous waste (not including wastewater) and more than 7.6 billion tons of industrial nonhazardous waste (including wastewater in surface impoundments).

A combination of regulations, permits, voluntary standards and programs help to ensure safer management of these various wastes. New contaminated waste sites, possibly Superfund sites, could result from mismanagement of these wastes threatening nearby communities. In FY 2004, the RCRA program will focus on improving current waste management practices, providing greater regulatory flexibility where appropriate and promoting opportunities for converting waste to energy, in support of the Resource Conservation Challenge.

The purpose of the RCRA program is to help reduce the risk of exposures to dangerous hazardous wastes by maintaining a "cradle-to-grave" waste management framework. This framework regulates the handling, transport, treatment, storage, and disposal of hazardous waste. The main vehicle for hazardous waste program implementation is the issuance of RCRA hazardous waste permits, which mandate appropriate controls for each site. To date, 48 states, Guam, and the District of Columbia are authorized to issue permits.

Strong state partnerships and the authorization of states for all portions of the RCRA hazardous waste program, including regulations that address waste management issues contained in permits, are important goals. State Program Authorization provides the states with primary RCRA implementation and enforcement authority, reduces overlapping and dual implementation by the states and EPA, provides the regulated community with one set of regulations, reduces overall Federal enforcement presence in the states, and can provide the opportunity for some of the newer less stringent RCRA regulations to be implemented by the states. In FY 2004, by using Express Authorization, states will greatly reduce the time and paper work currently required to receive authorization. The RCRA program will continue its strong partnerships with the Regions and states to eliminate the greatest impediments to State Program Authorization.

In a rulemaking designed to simplify the permitting process for lower-risk treatment and storage facilities, the Agency proposed standardized permit procedures. EPA anticipates promulgating the final rule in FY 2003. In FY 2004, the RCRA program plans to give guidance and training on the standardized permit rule and implementation of the rule will begin. In

addition, the program is investigating the feasibility of an e-permitting initiative in partnership with the states. Ideally this initiative will encourage and facilitate states in expediting and simplifying the permitting process and provide better public access to permitting information.

In addition to making changes in the permitting process, the Agency looks to improve all other aspects of waste management throughout the RCRA program. The entry point to this system is the identification of hazardous waste. It is the Agency's responsibility to identify those wastes that, when mismanaged, may pose a substantial risk to human health and the environment, as well as to identify those wastes for which burden should be reduced because of low risk.

During FY 2004, the Agency will assess whether additional hazardous waste identification work remains, identify priorities, and initiate necessary changes through non-regulatory or regulatory approaches that ensure protection of human health and the environment.

In line with efforts to better calibrate risk and regulatory standards, the Agency will continue work on developing targeted exemptions from the hazardous waste mixture and derived-from rules in FY 2004. We will identify priorities for additional targeted exemptions as well as review potential changes to existing exemptions.

In FY 2004, the Agency will continue work on a final rule establishing a consistent national approach for managing used industrial wipes, shop towels and rags containing hazardous solvents. As part of this effort, we will initiate development of implementation guidance to assist the thousands of small businesses, which routinely use these particular materials.

Another area where waste management practices can be improved involves the transportation from the generator to a treatment, storage or disposal facility, a step the hazardous waste manifest system regulates and tracks. A rule proposed in May 2001 for major manifest system changes is intended to greatly reduce the paperwork burdens on waste handlers and authorized states, while improving the effectiveness of tracking waste shipments. In FY 2003, the Agency expects to finalize the manifest form changes supported by both industry and states. In FY 2004, EPA will continue this effort by developing standards and systems for preparing, signing, and transmitting manifests electronically.

Treatment and disposal of hazardous waste is the primary area for many changes the Agency is making to the RCRA program. Combustion is one typical method of treatment of hazardous waste. Maximum achievable control technology (MACT) standards for hazardous waste burning incinerators, cement kilns and light-weight aggregate kilns were vacated by the U.S. Court of Appeals for the District of Columbia Circuit. The Agency must respond to the court's decision with a revised regulatory and implementation strategy. Technical assistance will be critical during the next few years to ensure appropriate controls over these major sources of hazardous air pollutants. The Agency must also develop MACT standards for hazardous waste burning boilers and hydrochloric acid production furnaces in order to meet statutory obligations under the Clean Air Act (CAA).

In support of the Resource Conservation Challenge, EPA will improve and expand activities designed to recover materials and energy from waste. In FY 2002, EPA proposed rule changes to promote the use of petroleum wastes as raw material in gasification processes, which produce cleaner gas fuels. In FY 2003, the Agency will finalize the proposed rule for petroleum streams and consider changes that also encourage the gasification of a broader range of hazardous waste streams. In FY 2004, EPA will consider establishing partnerships with the Department of Energy, industry, and states and municipalities to facilitate the application of gasification technology. Potentially, this effort could turn as much as 3 million tons of hazardous waste, and larger amounts of solid and industrial waste, into cleaner energy.

In January 2003 EPA launched the "Coal Combustion Products Partnership," a voluntary cooperative effort to increase the beneficial use of products from coal combustion, which would otherwise require disposal. This increased use will lead to greenhouse gas reductions, save disposal costs, and conserve landfill space. EPA and its industry partners will challenge generators and potential users of coal combustion products to increase their beneficial use, share technical information and expertise, and provide recognition for successes.

Beginning in FY 2003 and continuing into FY 2004, the Agency will implement its strategy for revising its landfill criteria. Revisions will provide additional flexibility for states and the regulated community. Additionally, revisions will provide for bioreactor technology as a future energy source. Studies have indicated that bioreactor landfill technology results in a significant increase in landfill gas emissions over a short period of time. These landfill gases consist primarily of methane and carbon dioxide. Landfill gas may represent an opportunity for gas collection and beneficial reuse for projects such as energy recovery. Currently, the use of landfill gas for energy applications is about 10% of its potential. Application of the controlled bioreactor technology to 50% of the waste currently being landfilled could provide over 270 billion cubic feet of methane yearly, sufficient to supply 1% of the U.S. electrical needs based on the U.S. Department of Energy estimates.

The use of biomass as a renewable resource for bio-based products and bio-energy can result in additional farm income, as well as less reliance on foreign energy sources, such as oil. Currently, bio-based products and the bio-energy industry remain small and fragmented. In FY 2004, EPA will continue to work with USDA, DOE and states to coordinate and promote a unified national bio-energy strategy.

The Agency also works to reduce risks from industrial non-hazardous waste, also known as Industrial D waste. Manufacturing facilities generate and dispose of 7.6 billion tons of industrial non-hazardous waste each year. The voluntary "Guide for Industrial Waste Management" was developed in partnership with state officials, industry and environmental representatives and issued in FY 2003. In FY 2004, EPA will continue the partnership efforts by assisting facility managers, state and Tribal regulators, and the interested public in utilizing the Guide. This will also be a period when EPA will identify any aspect of the Guide that needs clarification or modification to improve the usefulness to all our environmental partners.

Waste management, particularly issues surrounding disposal in open dumps, is a significant environmental concern for Tribes. A 1997 report to Congress by the Indian Health Service identified 143 high-threat open dumps on Tribal lands. In FY 2004, the Agency will

continue its leadership role in the interagency program directed toward closing open dumps and/or ensuring that those municipal solid waste landfills in Tribal country that wish to remain operating comply with regulations and work toward the most efficient and effective solutions that result in the greatest positive environmental impact. Agencies participating in this program include the Bureau of Indian Affairs, Indian Health Service, and others. The Agency will also assist Tribal governments in building both municipal and hazardous waste management capacity.

Since 1999, the Interagency Workgroup has provided over \$6.0 million to thirty-one Tribes to clean up open dumps and to develop solid waste management programs. Another round of awards is scheduled in FY 2003. In addition, the Agency has developed specific conferences, education programs and outreach tools on solid and hazardous waste issues targeted toward Native Americans.

Research

To support the Agency's objective of managing active waste management facilities to prevent contaminant releases into the environment, the Agency will conduct research in multimedia science, waste management, and RCRA corrective action as well as perform technical support activities. Research under this objective supports the Agency's need for research in all of these areas to build a strong scientific foundation for regulatory reforms and, thereby, supports the Agency's mission to protect human health and the environment. A draft Multi-Year Plan for Active Waste Management research has been developed to ensure that research conducted under this objective is relevant to EPA's mission. Also, a Waste Research Strategy was approved and released in 1999 to provide a clear rationale for selection and prioritization of waste research activities. In addition, to maximize the quality of the research conducted under this objective, all scientific and technical work products must undergo either internal or external peer review, with major or significant products requiring external peer review.

Multimedia Science

In FY 2004, the Agency will work to advance the multimedia modeling and uncertainty/sensitivity analyses methodologies that support core RCRA program needs as well as emerging RCRA needs in resource conservation. The EPA Science Advisory Board (SAB) review of the multimedia modeling effort in support of core RCRA needs (to be completed in FY03) will constitute an important milestone in determining future directions for this research effort. In response to emerging RCRA needs in resource conservation, EPA will develop multimedia science approaches for evaluating the potential for contaminant releases resulting from the beneficial reuse of waste-derived products. This research effort will have broad applicability and benefit to other programs' multimedia risk assessments as well. Finally, EPA's multimedia science effort is coordinated with other Federal entities through a multi-agency MOU, the goal of which is to enhance coordination in the development of reliable risk assessment methods and technologies.

Some specific research efforts to be undertaken in FY04 include: development of more comprehensive uncertainty and sensitivity analyses capability, development of visualization technology, implementation of a software toolset for model parallelization on clustered PCs, and

support for sampling design for model input data collection.

Waste Management

A number of significant technical problems remain related to waste management, such as arsenic treatment, treatment residual disposal, use of landfill bioreactors to manage municipal solid waste, and combustion. Certain hazardous waste disposal techniques need to be reevaluated and improved to ensure releases are minimized. The ability to predict waste releases depends on the ability of leaching protocols to accurately reflect the waste environment and matrix effects. Research will continue to define the role of leaching tests and protocols, and to document their limitations.

In the area of municipal solid waste management, EPA is collaborating with the private sector to conduct field evaluations of the performance of landfill bioreactors and with states to develop a monitoring program to optimize operations and minimize emissions. Landfill bioreactors can potentially provide alternative energy in the form of landfill gas while increasing the nation's landfill capacity. In FY 2004, EPA will conduct field sampling and monitoring of several landfill bioreactors, continue the characterization of the microbiology of bioreactor cells, and initiate a bioreactor design manual. Results of these efforts will include an interim field assessment of a landfill bioreactor system. In conjunction with drinking water research in Goal 2, research will continue on hard-to-treat wastes that focus on the characterization and treatment of arsenic-bearing residuals. Leaching studies also will continue on arsenic-bearing wastes, mine process wastes, and municipal solid wastes, including those in bioreactors.

Another aspect of waste management research involves hazardous waste combustion, and technical support through the Combustion Technical Assistance Center (CTAC). Efforts in this area address industrial combustion systems burning waste. Emissions from these facilities remain a public concern and a number of uncertainties about them exist, including the cumulative impact of continuous emissions from multiple combustion facilities. In FY 2004, work on continuous emissions monitors will continue with a focus on dioxins and other products of incomplete combustion (PICs).

RCRA Corrective Action and Environmental Indicators

EPA has set goals of meeting environmental indicators at high priority sites and moving sites through the RCRA corrective action process. New concerns have arisen on pathways for contaminant migration from ground water to surface water and from ground water to indoor air. In FY 2002, the Agency began providing technical support for evaluation of these pathways. In FY 2004, EPA will produce a report on methodologies for sub-slab vapor sampling to identify vapor intrusion into residences. In addition, a technology transfer product will be completed in FY 2004 following presentation of three workshops on vapor intrusion in FYs 2002 and 2003.

General technical support activities in risk management and risk assessment associated with RCRA Corrective Action will also continue in the form of support centers. These centers provide site-specific technical support, responses to scientific questions and technology transfer documents to program offices and other stakeholders. Additionally, there is collaboration with

support centers under the Superfund program, thereby sharing technical information across program applications.

FY 2004 Change from FY 2003 Request

EPM

- (-\$3,400,000) Redirected to Goal 4, Objective 5 to support the energy recovery, recycling, waste minimization and retail themes and to Goal 5, Objective 1 to support the one clean up and revitalization themes. Redirection reflects completion of program guidance documents, nearing completion of permitting goals and cost savings from docket consolidation.
- (-\$468,900 -5.3 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

S&T

Research

- (+\$1,000,000) This increase represents a shift from ecosystems protection research (Objective 8.1) and from research to enhance environmental decision making (Objective 8.3) to Goal 5, Objective 2 to fund research in groundwater/surface water interactions. Research will include: 1) determining how groundwater (gw) quality impacts surface water (sw) quality with respect to designated water uses and wetlands; 2) developing and evaluating indicators of ecosystem health and water quality; and 3) developing and evaluating models that integrate hydrology, biology, and biogeochemistry. This research will increase the Agency's knowledge of the interactions that occur at this interface, and thereby enhance the quality and timeliness of site remediations.
- (+\$118,600, 1.2 FTE) This increase is to support the Hazardous Substance Technical Liaison (HSTL) program. This program provides and facilitates technical support to the Regions in waste-related areas.
- (-\$151,300, -1.5 FTE) These workyears are being redirected to support the Agency's Homeland Security Strategic plan in the area of building decontamination research (Goal 5.1). As a result, research to investigate the fundamental processes that lead to formation of products of incomplete combustion (PICs) in waste incinerators will be delayed

- There are additional increases in payroll, cost of living, and enrichment for new and existing FTE.

GOAL: BETTER WASTE MANAGEMENT, RESTORATION OF CONTAMINATED WASTE SITES, AND EMERGENCY RESPONSE

OBJECTIVE: REGULATE FACILITIES TO PREVENT RELEASES

Annual Performance Goals and Measures

Oil Spill Response

- In 2004 Respond to or monitor 300 oil spills
- In 2005 Respond to or monitor 300 significant oil spills in the inland zone
- In 2007 EPA responded to or monitored 203 oil spills

Performance Measure:	FY 2007 Actual:	FY 2007 Pres. Bud	FY 2004 Request	
Oil spills responded to or monitored by EPA	203	300	300	spills

Baseline EPA typically responds to or monitors 300 oil spill cleanups per year

Ensure WIPP Safety

- In 2004 Certify that 18,000 55-gallon drums of radioactive waste (containing approximately 54,000 curies) shipped by DOE to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards
- In 2005 Certify that 12,000 55 gallon drums of radioactive waste (containing approximately 36,000 curies) shipped by DOE to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards
- In 2007 EPA certified that 22,800 55 gallon drums of radioactive waste (containing approximately 68,400 curies) shipped by DOE to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards

Performance Measure:	FY 2007 Actual:	FY 2007 Pres. Bud	FY 2004 Request	
Number of 55-Gallon Drums of Radioactive Waste Disposed of According to EPA Standards	22,800	12,000	18,000	Drums

Baseline The Waste Isolation Pilot Plant (WIPP) near Carlsbad, NM was opened in May 1999 to accept radioactive transuranic waste. By the end of FY 2002, approximately 35,000 (cumulative) 55 gallon drums will be safely disposed. In FY 2003, EPA expects that DOE will ship an additional 12,000 55 gallon drums of waste. Through FY 2004, EPA expects that DOE will have shipped safely and according to EPA standards, approximately 7.5% of the planned waste volume, based on disposal of 860,000 drums over the next 40 years. Number of drums shipped to the WIPP facility on an annual basis is dependent on DOE priorities and funding. EPA volume estimates are based on projecting the average shipment volumes over 40 years with an initial start up

Tribal Prevention Assistance

- In 2004 Assist Tribes in evaluation of waste management facility program needs and in the closing or upgrading of open dumps
- In 2005 Increase the percentage of Tribes evaluated for hazardous waste management by 4 percentage points, and assist in evaluating and closing open dumps on Tribal lands

Performance Measure:	FY 2007 Actual:	FY 2007 Pres. Bud	FY 2004 Request	
Percentage of tribes evaluated for hazardous waste management needs		2	4	percent
Number of open dumps on Tribal lands that comply with regulatory landfill standards, or have closed with protection against future dumping put in place		no target		sites

Baseline By the end of FY 2002, RCRA Subtitle C management needs had been evaluated for 177 Tribes. Baseline data for the Tribal Open Dump Cleanup Project is currently under development

Build National Radiation Monitoring System

In 2004 EPA will purchase 60 state of the art radiation monitoring units thereby increasing EPA radiation monitoring capacity and population coverage from 37% of the contiguous U.S. population in FY 2002 to 50% in FY 2004.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Increase Population Covered by the National Radiation Monitoring System			13	Percent
Purchase and Deploy State-of-the Art Monitoring Units			60	Units Purchased
Purchase a Deployable Component to the National Radiation Monitoring System			9/30/2004	

Baseline: The current fixed monitoring system, part of the Environmental Radiation Ambient Monitoring System, was developed in the 1960s for the purpose of monitoring radioactive fallout from nuclear weapons testing. The system currently consists of 52 old, low-tech air particulate samplers which provide coverage in cities which represent approximately 37% of the population. By 2005, EPA will upgrade the old system by purchasing 120 state-of-the-art units which will be strategically located to cover approximately 70% of the population. The current system's air samplers will be retired from service due to age, although so some may be retained for emergency use.

Waste and Petroleum Management Controls

In 2004 Increase the number of waste and petroleum facilities with acceptable or approved controls in place to prevent releases to the environment.

In 2003 Increase the number of waste and petroleum facilities with acceptable or approved controls in place to prevent releases to the environment.

In 2002 1.8% of RCRA hazardous waste management facilities received permits or other approved controls, and 580 oil facilities were in compliance with spill prevention, control and countermeasure provisions of the oil pollution regulations.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of oil facilities in compliance with spill prevention, control and countermeasure provisions of oil pollution prevention regulations.	580	600	600	facilities
Percent of RCRA hazardous waste management facilities with permits or other approved controls.	1.8%	1.4%	1.4%	percentage pts.
Number of confirmed UST releases nationally.			no target	UST releases
Increase in UST facilities in significant operational compliance with leak detection requirements.		3%	4%	percentage pts.
Increase in UST facilities in significant operational compliance with spill, overflow and corrosion protection regulations.		3%	4%	percentage pts.

Baseline: By the end of FY 2002, 2,925 oil facilities were in compliance with oil pollution prevention regulations, and 79% of approximately 2,750 RCRA facilities had permits or other approved controls in place. By the end of FY 2002, the UST Baseline is 74% of facilities in significant operational compliance with leak detection and 81% of facilities in significant operational compliance with spill, overflow, and corrosion protection. There are an average of 12,000 confirmed releases annually from underground storage tanks.

Chemical Facility Risk Reduction

In 2004 Increase facility risk reduction and state response capabilities.

In 2003 Increase facility risk reduction capabilities.

In 2002 Data not Available.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of risk management plan audits completed.	Not Available	300	400	audits
Number of states implementing chemical accident prevention programs.	1	8	No Target	states

Baseline: By the end of FY 2001, 438 risk management plan audits were completed, and 15 states had implemented accident prevention programs.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Percent of RCRA hazardous waste management facilities with permits or other approved controls in place.

Performance Database: The Resource Conservation Recovery Act Information System (RCRAInfo) is the national database which supports EPA's RCRA program.

Data Source: Data are entered by the States. Supporting documentation and reference materials are maintained in regional and state files. EPA regions and authorized states enter data on a rolling basis.

Methods, Assumptions and Suitability: The Resource Conservation Recovery Act Information System (RCRAInfo) is the national database which supports EPA's RCRA program. RCRAInfo contains information on entities (generically referred to as "handlers") engaged in hazardous waste (HW) generation and management activities regulated under the portion of RCRA that provides for regulation of hazardous waste. RCRAInfo has several different modules, including status of RCRA facilities in the RCRA permitting universe.

QA/QC Procedures: States and Regions generate the data and manage data quality related to timeliness and accuracy. Within RCRAInfo the application software enforces structural controls that ensure that high-priority national components of the data are properly entered. RCRAInfo documentation, which is available to all users on-line, provides guidance to facilitate the generation and interpretation of data. Training on use of RCRAInfo is provided on a regular basis, usually annually, depending on the nature of system changes and user needs.

Note: Access to RCRAInfo is open only to EPA Headquarters, Regional, and authorized State personnel. It is not available to the general public because the system contains enforcement sensitive data. The general public is referred to EPA's Envirofacts Data Warehouse to obtain filtered information on RCRA-regulated hazardous waste sites: oaspub.epa.gov/enviro/ef_home2.waste.

Data Quality Review: GAO's 1995 Report on EPA's Hazardous Waste Information System <http://frebgate.access.gpo.gov/cgi-bin/> (This historical document is available on the Government Printing Office Website) reviewed whether national RCRA information systems support EPA and states in managing their hazardous waste program. Recommendations coincide with ongoing internal efforts (WIN/Informed) to improve the definitions of data collected, ensure that data collected provide critical information and minimize the burden on states.

Data Limitations: No data limitations have been identified. Basic site identification data may become out-of-date because RCRA does not mandate annual or other periodic re-notification by the regulated entity when site name, ownership and contact information changes.

Error Estimate: N/A. Currently OSW does not collect data on estimated error rates.

New/Improved Data or Systems: EPA has successfully implemented new tools for managing environmental information to support Federal and state programs, replacing the old data systems (the Resource Conservation and Recovery Information System and the Biennial Reporting System) with RCRAInfo. RCRAInfo allows for tracking of information on the regulated universe of RCRA hazardous waste handlers, such as facility status, regulated activities, and compliance history. The system also captures detailed data on the generation of hazardous waste by large quantity generators and on waste management practices from treatment, storage, and disposal facilities. RCRAInfo is web accessible, providing a convenient user interface for Federal, state and local managers, encouraging development of in-house expertise for controlled cost, and using commercial off-the-shelf software to develop reports from database tables.

References: <http://www.epa.gov/osw/index.htm>; oaspub.epa.gov/enviro/ef_home2.waste

FY 2004 Performance Measures:

- **Number of States implementing chemical accident programs**
- **Number of risk management plan audits completed**

Performance Database: There is no database for these measures.

Data Source: EPA's Regional Offices and the States provide the data.

Methods, Assumptions and Suitability: Data will be collected by surveying EPA's Regional Offices to determine how many States are implementing prevention programs, and of those not, how many audits of the states' facilities' risk management plans (RMPs) have been completed.

QA/QC Procedures: Data are collected from states by EPA's Regional Offices, with review at the regional and headquarters' level.

Data Quality Review: Data quality is evaluated by both regional and headquarters personnel.

Data Limitations: Data quality is dependent on completeness and accuracy of the data provided by state programs and the information in risk management plans.

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2004 Performance Measures:

- **Percentage of UST facilities in significant operational compliance with leak detection requirements**

- **Percentage of UST facilities in significant operational compliance with spill, overfill and corrosion protection regulations**
- **Number of confirmed UST releases nationally (new measure)**

Performance Database: The Office of Underground Storage Tanks (OUST) does not maintain a national database. There is a new performance measure (number of confirmed UST releases nationally). FY 2003 will be a baseline year for this measure, with implementation methodologies introduced in FY 2004.

Data Source: Designated State agencies submit semiannual progress reports to the EPA regional offices. The new measure is already included in the existing semiannual progress reporting system.

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: EPA's regional offices verify and then forward the data to headquarters. Headquarters staff examine the data and resolve any discrepancies with the regional offices. The data are displayed on a region-by-region basis, which allow regional staff to verify their data.

Data Quality Review: None.

Data Limitations: Data quality is dependent on the accuracy and completeness of state records.

Error Estimate: N/A

New/Improved Data or Systems: None.

References: FY 2002 End-of-Year Activity Report, December 22, 2002 (updated semi-annually).

FY 2004 Performance Measures:

- **Number of oil facilities in compliance with spill prevention, control and countermeasure provisions of oil pollution prevention**
- **Oil spills responded to or monitored by EPA**

Performance Database: The Comprehensive Environmental Response, Compensation, and Liability System (CERCLIS) is the database used by the Agency to track, store, and report Superfund site information.

Data Source: Automated EPA system; headquarters and regional offices enter data into CERCLIS on a rolling basis.

Methods, Assumptions and Suitability: Each performance measure is a specific variable within CERCLIS.

QA/QC Procedures: To ensure data accuracy and control, the following administrative controls are in place: 1) Superfund/Oil Implementation Manual (SPIM), the program management manual that details what data must be reported; 2) Report Specifications, which are published for each report detailing how reported data are calculated; 3) Coding Guide, which contains technical instructions to such data users as regional Information Management Coordinators (IMCs), program personnel, report owners, and data input personnel; 4) Quality Assurance (QA) Unit Testing, an extensive QA check against report specifications; 5) Regional CERCLIS Data Entry Internal Control Plan, which includes: (a) regional policies and procedures for entering data into CERCLIS; (b) a review process to ensure that all Superfund accomplishments are supported by source documentation; (c) delegation of authorities for approval of data input into CERCLIS; and (d) procedures to ensure that reported accomplishments meet accomplishment definitions; and (6) a historical lockout feature that has been added to CERCLIS so that changes in past fiscal year data can be changed only by approved and designated personnel and are logged to a change-log report.

Data Quality Reviews: Two audits, one by the Office Inspector General (OIG) and the other by Government Accounting Office (GAO), were done to assess the validity of the data in CERCLIS. The OIG audit report, *Superfund Construction Completion Reporting* (No. E1SGF7_05_0102_8100030), dated December 30, 1997, was prepared to verify the accuracy of the information that the Agency was providing to Congress and the public. The OIG report concluded that the Agency "has good management controls to ensure accuracy of the information that is reported," and "Congress and the public can rely upon the information EPA provides regarding construction completions." Further information on this report are available at <http://www.epa.gov/oigearth/eroom.htm>. The GAO's report, *Superfund Information on the Status of Sites* (GAO/RECD-98-241), dated August 28, 1998, was prepared to verify the accuracy of the information in CERCLIS on sites' cleanup progress. The report estimates that the cleanup status of National Priority List sites reported by CERCLIS as of September 30, 1997, is accurate for 95% of the sites. Additional information on the *Status of Sites* may be obtained by visiting <http://www.gao.gov>. A third OIG audit, *Information Technology - Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Data Quality* (Report No. 2002-P-00016), dated September 30, 2002, evaluated the accuracy, completeness, timeliness, and consistency of the data entered into CERCLIS. The weaknesses identified were caused by the lack of an effective quality assurance process and adequate internal controls over CERCLIS data quality. The report provided 11 recommendations to improve controls over CERCLIS data quality. OSWER concurs with the recommendations contained in the audit. Due to the extended period of time since the inception of this audit, many of the identified problems have been corrected or actions that would address these recommendations are underway. Additional information about this report is available at <http://www.epa.gov/oigearth/eroom.htm>.

The IG reviews annually the end-of-year Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) data, in an informal process, to verify the data supporting the performance measures. Typically, there are no published results.

The Quality Management Plan (QMP) for the Office of Solid Waste and Emergency Response (OSWER) is currently under review by the Office of Environmental Information.

Data Limitations: Weakness were identified in the OIG audit, *Information Technology - Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Data Quality* (Report No. 2002-P-00016), dated September 30, 2002. The weaknesses identified were caused by the lack of an effective quality assurance process and adequate internal controls over CERCLIS data quality. The report provided 11 recommendations with which OSWER concurs. Many of the identified problems have been corrected or actions that would address these recommendations are underway, e.g., 1) FY 02/03 SPIM Chapter 2 update; 2) draft guidance from OCA subgroup and 3) Pre-CERCLIS Screening: A Data Entry Guide. The development and implementation of a quality assurance process for CERCLIS data is planned to begin February 2003 which will clearly delineate quality assurance responsibilities and periodically select random samples of CERCLIS data elements and verify the data to source documents in site files.

Error Estimate: The GAO's report, *"Superfund Information on the Status of Sites"* (GAO/RECD-98-241), dated August 28, 1998, estimates that the cleanup status of National Priority List sites reported by CERCLIS is accurate for 95% of the sites.

New/Improved Data or Systems: In FY 2004, the Agency will continue its efforts begun in 1999 to improve the Superfund program's technical information by incorporating more site remedy selection, risk, removal response, and community involvement information into CERCLIS. Efforts to share information among the Federal, state, and Tribal programs to further enhance the Agency's efforts to efficiently identify, evaluate and remediate Superfund hazardous waste sites will continue. In 2005 the Agency will also establish data quality objectives for program planning purposes and to ascertain the organization's information needs for the next 5 years. Adjustments will be made to EPA's current architecture and business processes to better meet those needs. A CERCLIS modernization effort is currently underway to enhance CERCLIS with a focus on data collection and data analysis and how to best satisfy the current needs of the Superfund program. The Superfund eFacts system is a vital part of the CERCLIS modernization efforts. The Superfund eFacts system is an e-Government solution design to give EPA management and staff quick and easy access to important milestones relating to various aspects of the Superfund program.

References: References include OIG audit reports, *Superfund Construction Completion Reporting*, (No. E1SGF7_05_0102_8100030) and *Information Technology - Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Data Quality*, (No. 2002-P-00016), <http://www.epa.gov/oigearth/erom.htm>; and the GAO report, *Superfund Information on the Status of Sites* (GAO/RECD-98-241), <http://www.gao.gov>. Other references include the Superfund/Oil Implementation Manuals for the fiscal years 1987 to the current manual and the Annual Performance Report to Congress.

FY 2004 Performance Measure: Number of Drums of Radioactive Waste Disposed of according to EPA Standards.

Performance Data: The Department of Energy (DOE) Waste Isolation Pilot Plant (WIPP) database contains the number of drums shipped by DOE waste generator facilities and placed in the DOE WIPP. The WIPP is a DOE facility located in southeastern New Mexico, 26 miles from Carlsbad. The WIPP Land Withdrawal Act was passed by Congress in October 1992 and amended in September 1996. The act transferred the land occupied by the WIPP to DOE and gave EPA, among other things, regulatory responsibility for determining whether the facility complies with radioactive waste disposal standards.

Data Source: Department of Energy

QA/QC Procedures: The performance data used by EPA are collected and maintained by DOE. Under EPA's WIPP regulations (available on the Internet: <http://www.epa.gov/radiation/wipp/background.htm>, all DOE WIPP-related data must be collected and maintained under a comprehensive quality assurance program meeting consensus standards developed by the American Society of Mechanical Engineers (ASME) (available on the Internet: <http://www.asme.org/codes/>). EPA conducts regular inspections to ensure that these quality assurance systems are in place and functioning properly; no additional QA/QC of the DOE data is conducted by EPA.

Data Limitations: The DOE WIPP database contains the number of drums shipped by DOE waste generator facilities and placed in the DOE WIPP. Currently, there are five DOE waste generator facilities that are approved to generate and ship waste: Los Alamos National Laboratory, Rocky Flats Environmental Technology Site, Hanford Site, Idaho National Engineering and Environmental Laboratory, Savannah River Site.

Before DOE waste generator facilities can ship waste to the WIPP, EPA must approve the waste characterization controls and quality assurance procedures for waste identification at these sites. EPA conducts frequent independent inspections and audits at these sites to verify continued compliance with radioactive waste disposal standards and to determine if DOE is properly tracking the waste and adhering to specific waste component limits. Since 1998, EPA has completed over 30 inspections prior to shipment of waste to the WIPP facility.

Once EPA gives its approval, the number of drums shipped to the WIPP facility on an annual basis is dependent on DOE priorities and funding. EPA volume estimates are based on projecting the average shipment volumes over 40 years with an initial start up.

New/Improved Data or Systems: None

References: The Department of Energy National TRU Waste Management Plan Quarterly Supplement <http://www.wipp.ws/library/caolib.htm#Controlled> contains information on the monthly volumes of waste that are received at the DOE WIPP.

Coordination with Other Agencies

State UST programs are a key to achieving the objectives and long-term strategic goals. EPA relies on state agencies to implement the UST program, including developing

core program capabilities and promoting and enforcing compliance with the UST requirements.

Because many agencies at all levels of government have authority to regulate and implement aspects of hazardous materials safety programs, coordination is essential for the success of EPA initiatives. On the chemical accident preparedness and prevention side, inter-agency coordination remains a critical factor in accomplishing the goals of the Risk Management and EPCRA programs. The Agency's role in carrying out these initiatives is to provide leadership and support. EPA works in partnership with states and local governments and other organizations to promote actions to reduce risk. We also provide technical assistance and tools to states and Local Emergency Planning Committees (LEPCs) to better utilize the information on chemical hazards and risks available to them. In addition, through the rulemaking process, EPA works closely with our Federal partners (DOJ, OSHA, and DOT) and with states to ensure compatibility with new and existing accident preparedness and prevention initiatives. Close coordination and a cooperative working relationship is also required to effectively meet our responsibilities in the Chemical Safety program, most importantly where they involve the Chemical Safety Board (CSB). EPA has completed a memorandum of understanding with the CSB, which further delineates this working relationship.

The focal point for our Federal preparedness efforts is EPA's role in the National Response System, which coordinates chemical emergency preparedness and response at the Federal, state and local levels. Within this structure, EPA chairs the multi-agency National Response Team, and co-chairs Regional Response Teams that oversees national, regional, and area spill emergency planning. In addition, the Agency plays a leadership role in crisis management, which requires participation on a number of inter-agency committees and workgroups.

Under the Oil Spill program, EPA works with other Federal agencies such as the United States Fish & Wildlife Service, National Oceanographic and Atmospheric Administration, United States Coast Guard, Federal Emergency Management Agency, Department of the Interior, Department of Transportation, Department of Energy, and other Federal agencies and states, as well as with local government authorities to develop ACPs. The Department of Justice also provides assistance to agencies with judicial referrals when enforcement of violations becomes necessary. EPA and the United States Coast Guard work in coordination with other Federal authorities to implement the National Preparedness for Response program.

The Agency maintains a close partnership with state agencies to implement the RCRA Permitting and Municipal Solid Waste (MSW) landfill programs. States are to achieve the same level of protection as the Agency, including the annual performance goals of controls at hazardous waste facilities and MSW landfills. Regional offices negotiate with the state agencies regarding the goals and performance they will achieve with the grant funds. For example, Regions may negotiate with the state agencies the number of facilities they will permit in a year resulting in approved controls in place at facilities. The Agency will continue our partnership effort with state agencies by

providing technical assistance and guidance on implementing permitting and MSW Landfill programs.

The Agency works with tribes to ensure compliance under RCRA on Indian lands. Regional RCRA Tribal teams are partnering with the Indian Health Service (IHS) and the Bureau of Indian Affairs (BIA) to address open dump issues on Tribal lands. Regional offices establish interagency workgroups in states where partnership with these Federal agencies have not been well established. Workgroup representatives from other Federal agencies coordinate tasks based on the field of expertise within each agency, which allows for efficient completion of the open dump initiative without overlapping efforts.

Research

EPA developed a Memorandum of Understanding (MOU) with several other agencies (Department of Energy, Department of Defense, Nuclear Regulatory Commission, Department of the Interior - US Geological Survey, NOAA, and the Department of Agriculture) for multimedia modeling research and development. Contacts with the other agencies have been developed largely due to the 3MRA modeling program in EPA. The multi-agency coordination reduces inefficient duplication, and allows each agency or department partner to benefit from the best expertise available on multi-media research and development.

With respect to waste management issues research is being coordinated with the public and private sectors. Currently, EPA has the lead in providing regulatory guidance for solid waste disposal issues. The Agency has also worked extensively with bioreactor technology, in cooperation with states and private industry, and will continue to do so in FY 2004. In conjunction with the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) and the National Council of Governors, EPA state programs have been actively analyzing new operating configurations for landfills to help states and municipalities develop options for managing municipal solid waste.

The Interstate Technical Regulatory Cooperative (ITRC) has proved a good forum for coordinating Federal and state activities and for defining continuing research needs, with a team newly formed to evaluate vapor intrusion as a pathway for subsurface contaminants to migrate into people's homes.

Statutory Authorities

Solid Waste Disposal Act as amended by the Hazardous and Solid Waste Amendments of 1984

Title III (Emergency Planning and Community Right-to-Know Act) of CERCLA, as amended by Superfund Amendments and Reauthorization Act (SARA) of 1986

Clean Air Act Section 112

Waste Isolation Pilot Plant Land Withdrawal Act of 1992, P.L. 102-579

Nuclear Waste Policy Act of 1982, P.L. 97-425

Energy Policy Act of 1992, P.L. 102-486

Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. (1970), and Reorganization Plan #3 of 1970

Uranium Mill Tailings Radiation Land Withdrawal Act of 1978

Public Health Service Act, as amended, 42 U.S.C. 201 et seq.

Chemical Safety Information, Site Security and Fuels Regulatory Release Act, 1999

Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, 42 U.S.C. 5121 et seq.

Executive Order 12241 of September 1980, National Contingency Plan, 3 CFR, 1980

Executive Order 12656 of November 1988, Assignment of Emergency Preparedness Responsibilities, 3 CFR, 1988

Oil Pollution Act (OPA), 33 U.S.C. 2701 et seq.

Clean Water Act (CWA), Section 311.

Safe Drinking Water Act, 42 U.S.C. 300F et seq. (1974)

Clean Air Act Section 112

Research

Solid Waste Disposal Act (SWDA)

Resource Conservation and Recovery Act (RCRA)

Hazardous and Solid Waste Amendments (HSWA)

The Clean Air Act Amendments (CAA)

Goal 6: Global and Cross-Border

Environmental Protection Agency
2004 Annual Performance Plan and Congressional Justification
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Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risks

Strategic Goal: The United States will lead other nations in successful, multilateral efforts to reduce significant risks to human health and ecosystems from climate change, stratospheric ozone depletion and other hazards of international concern.

Resource Summary (Dollars in thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduction of Global and Cross-border Environmental Risks	\$216,575.3	\$269,727.2	\$263,847.5	(\$5,879.7)
Reduce Transboundary Threats to Human and Ecosystem Health in North America.	\$33,693.5	\$98,185.9	\$89,394.6	(\$8,791.3)
Reduce Greenhouse Gas Emissions.	\$146,393.0	\$136,953.4	\$138,105.8	\$1,152.4
Reduce Stratospheric Ozone Depletion.	\$14,749.8	\$15,813.3	\$17,540.3	\$1,727.0
Protect Public Health and Ecosystems from PBTs and other Toxics.	\$5,391.1	\$6,173.6	\$6,680.7	\$507.1
Increase Domestic and International Use of Cleaner and More Cost-Effective Technologies.	\$16,347.9	\$12,601.0	\$12,126.1	(\$474.9)
Total Workyears	530.4	504.7	502.3	-2.4

Background and Context

Many serious environmental risks transcend political boundaries. Consequently, protecting human health and the environment in the United States requires coordination and cooperation at a multinational level. Ecosystems, such as the Great Lakes, are essential to the health and welfare of U.S. citizens; they are shared by neighboring countries and can be preserved only through joint action. Other environmental risks- related to climate change, arctic environments, and biodiversity- are global in scope and can affect the health and welfare of all those who live in the United States both directly and indirectly. These and other threats, unbounded by national borders, need to be addressed on an international scale.

International environmental management programs provide important political and economic benefits. A significant portion of EPA's international work fulfills legally binding treaties, conventions and other international statutory mandates. Sharing regulatory and technological expertise helps the United States, other industrialized nations, and developing nations achieve development consistent with the goals of protecting human health and the environment. As developing nations progress economically, their use of sound environmental practices will prevent the need for costly cleanup and restoration in the future. In addition, the development of effective environmental management practices worldwide, both binding and non-binding, ensures that developing nations that otherwise may opt for growth at the expense of the environment do not competitively disadvantage U.S. companies.

Means and Strategy

To reduce environmental and human health risks along the U.S./Mexico Border and the Great Lakes, EPA employs both voluntary and regulatory measures. Efforts in the U.S./Mexico Border Area utilize a series of workgroups that focus on priority issues ranging from water infrastructure and hazardous waste to outreach efforts focusing on communities and businesses in the border area. The programs were initially conceived in a Federal-to-Federal context. Today, it is clear that in both countries, non-Federal governments are the appropriate entities for developing and carrying out much of the work of protecting the border environment. The experience of the last six years has shown U.S. Border States as key participants in workgroup activities with similar experience on the Mexico side. In the past year all border states have stressed the need for greater decentralization of environmental authority, and in FY 1999, states and the Federal governments agreed to a set of principles that clarify the roles of the governments and advance state and Tribal participation. Under the new Border 2012 Plan, which was developed with SEMARNAP (EPA's Mexican counterpart), the states and tribes will play a more substantial and meaningful role in:

- Determining how Federal border programs are developed and funded;
- Focusing on developing regional workgroups that empower border citizens; and
- Ensuring that programs devolve from Mexico's Federal government to the Mexican states, with corresponding funding.

Great Lakes Strategy 2002, developed by EPA's Great Lakes National Program Office (GLNPO) and Federal, state, and Tribal agencies in consultation with the public, advances U.S. Great Lakes Water Quality Agreement implementation. Its long-range vision for a healthy natural environment where all beaches are open for swimming, all fish are safe to eat, and the Lakes are protected as a safe source of drinking water is supported by Lakewide Management Plans (LaMPs) and Remedial Action Plans (RAPs) for Areas of Concern (AOCs). Progress is measured through the Integrated Atmospheric Deposition Network and GLNPO's open water, fish, and sediments monitoring.

EPA will meet its climate change objectives by working with both business and other sectors to deliver multiple benefits - from cleaner air to lower energy bills - while continuing to improve overall scientific understanding of climate change and its potential consequences. The

core of EPA's climate change efforts are voluntary government/industry partnership programs designed to capitalize on the tremendous opportunities available to consumers, businesses, and organizations to make sound investments in efficient equipment and practices. These voluntary programs remove barriers to existing and emerging technologies in the marketplace, resulting in faster deployment of energy efficient technology into the residential, commercial, transportation, and industrial sectors of the economy. Through its Clean Automotive Technology program, EPA develops unique new technologies with high potential for improving air quality and reducing energy consumption. The Agency is working in partnership with industry to make some of these technologies commercially available before the end of the decade. In addition, EPA works with other key stakeholders in promoting the development of fuel cell technology for transportation.

To restore and protect the earth's stratospheric ozone layer, EPA works both domestically and internationally to limit the production and use of ozone-depleting substances and to develop safe alternative compounds. EPA also provides education about the risk of environmental and health consequences of overexposure to ultraviolet (UV) radiation.

To address the potential risks associated with persistent and bioaccumulative substances and other toxics, the Agency employs two fundamental approaches. The first approach seeks to minimize the potential harmful impacts of circulating toxic substances through the negotiation and implementation of specific treaties. The second approach focuses on the cooperative efforts of the Organization for Economic Cooperation and Development (OECD) and other international organizations working to develop harmonized methods for testing and assessing the toxicity of chemicals, and for measuring the effects of chemicals to humans and the environment.

In addition to the specific strategies noted above, the Agency employs a variety of means to achieve the environmental objectives outlined in this goal. These include:

- Implementing formal bilateral and multilateral environmental agreements with key countries, executing environmental components of key foreign policy initiatives, and, in partnership with the Department of State, engaging in regional and global negotiations aimed at reducing risks via formal and informal agreements.
- Working with other countries to ensure that domestic and international environmental laws, policies, and priorities are recognized and implemented.
- Partnering with other Federal agencies, states, business, and environmental groups to promote environmentally sustainable technologies and services worldwide.

Research

EPA's Global Change Research Program provides the knowledge to allow policy makers to find the most appropriate, science-based solutions to reduce the potential risks to human health and ecosystems posed by climate change. EPA coordinates closely with the interagency Climate Change Science Program (CCSP) and the National Oceanic and Atmospheric Administration's (NOAA) Regional Integrated Science and Assessment Program.

Several mechanisms are in place to ensure a high-quality Global Change Research program at EPA. The Research Strategies Advisory Committee (RSAC) of EPA's Science Advisory Board (SAB), an independent chartered Federal Advisory Committee Act (FACA) committee, meets annually to conduct an in-depth review and analysis of EPA's Science and Technology account. The RSAC provides its findings to the House Science Committee and sends a written report on the findings to EPA's Administrator after every annual review. Moreover, EPA's Board of Scientific Counselors (BOSC) provides counsel to the Assistant Administrator for the Office of Research and Development (ORD) on the operation of ORD's research program. EPA's scientific and technical work products must also undergo either internal or external peer review, with major or significant products requiring external peer review. The Agency's Peer Review Handbook (2nd Edition) codifies procedures and guidance for conducting peer review.

Strategic Objectives

- Reduce Transboundary Threats to Human and Ecosystem Health in North America
- Reduce Greenhouse Gas Emissions
- Reduce Stratospheric Ozone Depletion
- Protect Public Health and Ecosystems from PBTs and other Toxics
- Increase Domestic and International Use of Cleaner and More Cost-Effective Technologies

Highlights

In FY 2004, EPA will use a variety of approaches to build international cooperation and technical capacity and to prevent harm to the global environment and ecosystems we share with other nations.

The Agency will host representatives of foreign governments, industry, and Non-governmental Organizations (NGOs) at the Agency's Headquarters, Regions, and labs. The Agency will also share technical publications and CD-ROMs with developing countries and provide access to additional information through technical training courses, the EPA website, the Spanish Language Resources site, and other services.

EPA will work directly with other countries and through multilateral organizations to share innovative practices for environmental management and to share environmental information. These programs help build environmental management capacity of developing countries while also providing reciprocal benefits to U.S. citizens. These benefits may include: the introduction of new techniques for managing urban environments, reduced environmental damage to the global commons, reduced costs and effort through data sharing, an increased demand for U.S. environmental technologies and services, and the implementation of more transparent enforcement and permitting regimes.

U.S./Mexico Border

In FY 2004, EPA, in partnership with the Mexican Government, state and local governments, and community organizations, will implement the Border 2012: US-Mexican Environment Program that will focus resources in areas that can most directly lead to improvements in public health and environmental conditions in this area. The Border 2012 Program will transfer to the states and local communities substantial responsibility to set priorities and manage program implementation based on explicit environment and public health goals and objectives with measurable outcomes.

Specifically, the Border 2012 Program will focus on the following: 1) reducing the effects of the environment on human health; 2) improving air quality; 3) funding wastewater and drinking water infrastructure investments in under-served communities; 4) managing chemical accidents; 5) supporting pollution prevention programs that will, over the long term, reduce the adverse health and environmental effects of pollutants; 6) reducing and effectively managing hazardous and solid waste; 7) strengthening bi-national cooperation between institutions responsible for enforcing their respective country's environmental laws; and 8) strengthening coordination on pesticide activities linking the work on regulatory harmonization with field implementation projects to protect field workers and assure safe food supplies.

Great Lakes

EPA, through the GLNPO, will coordinate among state, Tribal, and Federal agencies to implement the Great Lakes Strategy and measure progress against quantitative environmental objectives in areas such as clean-up of AOCs, reduction of fish contaminants, beach closures, sediment remediation, wetland restoration, and invasive species. In FY 2004, if long-term trends continue, EPA will report a 5 percent decline in toxics (polychlorinated biphenyls or PCBs) in lake trout and a 7 percent reduction in air toxic concentrations. EPA will also lead development of management recommendations to address Lake Erie dissolved-oxygen levels, which are inexplicably low despite U.S. and Canadian success in achieving phosphorus targets.

In FY 2004, EPA is proposing to increase funding for sediment clean-up activities in the Great Lakes by \$15 million. Some of these funds will be needed for assessment and analysis, which will result in subsequent cleanups. This first year of funding will also enable EPA to begin cleanup on two to three new sites and will lead to the remediation of over 100,000 cubic yards of contaminated sediments.

Longer-term objectives in the Great Lakes Strategy include:

- By 2005, clean up and de-list 3 Areas of Concern, with a cumulative total of 10 by 2010 out of 43 that have been identified.
- By 2007, reduce concentrations of PCBs in lake trout and walleye by 25 percent.
- By 2010, 90 percent of monitored Great Lakes beaches will meet bacteria standards more than 95 percent of the swimming season.

- By 2010, substantially reduce further introductions of invasive species.
- By 2010, restore, enhance, or rehabilitate 100,000 acres of wetlands in the Basin.
- Accelerate the pace of sediment remediation, leading to the clean up of all known sites by 2025.

Climate Change

The President's climate change program builds on the accomplishments of EPA's voluntary climate programs. EPA's voluntary climate change programs have made significant progress to date. However, the opportunities remain to achieve further pollution reductions and energy bill savings from energy efficiency programs and greater use of cost-effective renewable energy. In the U.S., energy consumption causes more than 85 percent of the major air emissions such as NO_x, SO₂, and CO₂. At the same time, American families and businesses spend over \$600 billion each year on energy bills- more than we spend on education.

In FY 2004, EPA will continue to build upon its voluntary government/industry partnership efforts to achieve even greater greenhouse gas (GHG) reductions by taking advantage of additional opportunities to simultaneously reduce pollution and energy bills. EPA's climate programs help break down market barriers and foster energy efficiency programs, products and technologies, cost effective renewable energy, and greater transportation choices. A key example is within the Buildings Sector, which represents one of the largest areas of potential emission reduction, and at the same time is one of its most successful. EPA will continue to build upon the successful ENERGY STAR partnerships (including ENERGY STAR Labeling and the ENERGY STAR Buildings Program) and work toward the goal of offsetting about 24 percent of the growth in GHG emissions above 1990 levels expected by 2010 in this sector.

In FY 2004, in the voluntary transportation sector, EPA will further build the Green Transport Partnership which works with the trucking and railroad industries to achieve cleaner and more efficient vehicles and locomotives by adopting pollution control and energy saving technologies. This partnership program is a voluntary effort aimed at reducing CO₂, NO_x, and PM emissions, and conserving diesel fuel.

In FY 2004, EPA will continue its successful development of new transportation technologies that promise even more dramatic energy-savings. By applying EPA's patented hydraulic hybrid drivetrain components to a midsize-car research chassis, the Agency's Clean Automotive Technology (CAT) program already has attained a fuel economy efficiency of more than 80 miles per gallon (gasoline equivalent). During FY 2002, the CAT program achieved double-digit efficiency improvements from hydraulic hybrid related technologies on a full-size domestic pickup truck. The urgent focus continues to be on developing cost effective, innovative, clean engine and drivetrain technology for personal vehicle and commercial trucks and on demonstrating the application of these ultra-efficient hydraulic powertrains to personal vehicles such as Sport Utility Vehicles (SUVs), pickups, and urban delivery vehicles. By combining these hydraulic hybrid drivetrain innovations with developments in engine technology, EPA anticipates demonstrating 50-70 percent improvement in the fuel efficiency of a large SUV or urban delivery truck by 2006, and up to 100 percent improvement by 2010. With

a predicted market penetration into as much as 50 percent of new light trucks (including SUVs) by 2020, annual fuel savings would reach at least 8 billion gallons. In 2020, emissions from this sector alone would fall by 25 MMTCE.

EPA will continue to work closely with state and local partners to assess the air quality, health, and economic benefits of reducing greenhouse gas emissions and developing practical risk reduction strategies. EPA will also establish international partnerships that will link industrial efficiency, transportation improvements, reduction of greenhouse gases, and sustainable development.

Stratospheric Ozone

To protect the earth's stratospheric ozone layer in accordance with the United States' commitment to the Montreal Protocol, EPA will continue to regulate ozone-depleting compounds, foster the development and use of alternative chemicals in the U.S. and abroad, inform the public about the dangers of overexposure to UV radiation, and use pollution prevention strategies to require the recycling of ozone-depleting substances (ODS) and hydroflouorocarbons.

Toxics and Pollutants

Reduced risks from toxics, especially persistent organic pollutants (POPs) and selected metals that circulate in the environment at global and regional scales, will be achieved by working with other countries, within the frameworks established by international instruments, to control the production or phase-out from the use of targeted chemicals. EPA is also working to reach agreement on import and export requirements applicable to certain chemicals, an expansion of pollutant release and transfer registers and the harmonization of chemical testing, assessment and labeling procedures. The goal of international harmonization of test guidelines is to reduce the burden on chemical companies of repeated testing in satisfying the regulatory requirements of different jurisdictions both within the United States and internationally. Harmonization also expands the universe of toxic chemicals for which needed testing information is available, and fosters efficiency in international information exchange and mutual international acceptance of chemical test data. EPA will continue to cooperate closely with other Federal agencies and with other industrialized nations within the program framework of the OECD in harmonizing testing guidelines.

The U.S. is working with other OECD member countries to implement the International Screening Information Data Set (SIDS) program, a voluntary international cooperative testing program begun in 1990. The program focuses on developing base-level test information (including data on basic chemistry, environmental fate, environmental effects and health effects) for international high production volume (HPV) chemicals, which are chemicals that are manufactured at one million tons, or 2.2 million pounds, annually. SIDS data for HPV chemicals will be made available to the public. SIDS data will also be used to screen chemicals and to set priorities for further testing and/or assessment. The Agency will review testing needs for 75 SIDS chemicals in FY 2003.

POPs Implementation

In FY 2004, EPA will target resources to: 1) provide technical and financial assistance to key countries/regions, with an emphasis on those whose releases most directly affect the U.S. (e.g., Russia, Central America, and the Caribbean); 2) address key priorities/areas of need for each country as well as gaps in technical and financial assistance; 3) maximize use of existing bilateral and regional partnerships, such as the North American Center for Emergency Communications (NACEC) and the Arctic Council, to achieve efficiencies and leverage funding; and 4) support international cooperative efforts, such as monitoring and assessment, to identify trends and establish priorities. To manage these activities, EPA has developed an international POPs Implementation Plan and will continue working with UNEP in an Internet Access Project to train officials of developing countries on accessing information necessary for sound management of chemicals.

Research

EPA's Global Change Research Program supports one of six Administration FY 2004 Interagency Research and Development Priorities - Climate Change Science and Technology. All activities to assess potential impacts of global climate change will be developed and coordinated with the Climate Change Science Program. Attention is expected to be given to assessing the potential consequences of global change – including climate variability and change, land use changes, and UV radiation – on air quality, water quality, ecosystem health, and human health. The Agency will also assess potential adaptation strategies for building resilience to global change, while responding to both risks and opportunities.

External Factors

EPA's work to reduce global and cross-border environmental risks requires the cooperation of numerous governments and agencies around the world as well as non-governmental organizations and private sector parties. Accordingly, the level of success and the speed at which our objectives are achieved is highly influenced by external factors and events.

While many factors outside of EPA or U.S. control determine a Nation's willingness to participate in international environmental protection efforts (e.g., economic or political considerations within the country), EPA's international policy and technical exchange programs can play an important role in convincing particular nations of both the need and feasibility of participating. Other factors affecting EPA's programs include continued Congressional and public support; cooperation with other Federal agencies, such as the State Department and the U.S. Agency for International Development; and collaboration with state and local groups, business and industry groups, and environmental organizations.

Reduction of air, water, wastewater and solid waste problems along the U.S. border with Mexico will require continued commitment by national, regional and local environmental officials in that country.

Progress on Great Lakes goals and measures is dependent on actions of others, both within and outside of the Great Lakes. Key Great Lakes partners, including Canada, state

regulatory agencies, the Corps of Engineers, the National Oceanic and Atmospheric Administration (NOAA), the Fish and Wildlife Service (USFWS), and the Natural Resources Conservation Service (NRCS) must act together to continue environmental progress.

The U.S. Global Change Research Program (USGCRP) was established in 1990 by the U.S. Global Change Research Act. The 1990 Act mandates that the USGCRP conduct periodic assessments of the consequences of global change for the U.S. EPA is one of ten member agencies of the USGCRP. The EPA program relies on partnerships with academic institutions to fulfill its obligations to the USGCRP National Assessment effort.

EPA's efforts to reduce global and regional threats to oceans and the atmosphere require the active cooperation of other countries. Health and environmental benefits resulting from the multi-billion dollar investment by U.S. companies to reduce emissions of stratospheric ozone-depleting compounds could be completely undone by unabated emissions of these chemicals in other countries. Fortunately, the Montreal Protocol on Substances that Deplete the Ozone Layer has secured the participation of most countries, including major producers and consumers of these chemicals. Recovery of the stratospheric ozone layer is contingent upon international adherence to the commitments made under the Montreal Protocol. UV risk-reduction efforts are impacted by the rate of recovery of the ozone layer and socio-behavioral norms and attitudes regarding sun protection.

The success of international agreements on toxic substances is contingent on the developed world providing adequate levels of funding and timely technical assistance to developing countries, especially key source countries. Such funding and technical assistance is necessary in order for these countries to develop the necessary skill levels and infrastructure for implementing these environmental agreements. The ultimate success of these international efforts is contingent on not only the provision of policy and technical leadership by EPA and other Federal government entities, but also the ability to lead through the provision and leveraging of financial and technical assistance.

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risks

Objective: Reduce Transboundary Threats to Human and Ecosystem Health in North America.

By 2005, reduce transboundary threats to human health and shared ecosystems in North America, including marine and Arctic environments, consistent with our bilateral and multilateral treaty obligations in these areas, as well as our trust responsibility to tribes.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Transboundary Threats to Human and Ecosystem Health in North America.	\$33,693.5	\$98,185.9	\$89,394.6	(\$8,791.3)
Environmental Program & Management	\$23,988.9	\$23,185.9	\$39,394.6	\$16,208.7
State and Tribal Assistance Grants	\$9,704.6	\$75,000.0	\$50,000.0	(\$25,000.0)
Total Workyears	81.3	80.8	85.8	5.0

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Facilities Infrastructure and Operations	\$1,082.2	\$1,127.7	\$1,188.6	\$60.9
Great Lakes Legacy Act	\$0.0	\$0.0	\$15,000.0	\$15,000.0
Great Lakes National Program Office	\$14,929.7	\$15,128.2	\$15,392.0	\$263.8
Legal Services	\$443.1	\$476.2	\$496.9	\$20.7
Management Services and Stewardship	\$333.4	\$373.7	\$32.7	(\$341.0)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Regional Management	\$0.0	\$0.0	\$88.7	\$88.7
Regional and Global Environmental Policy Development	\$931.5	\$715.5	\$711.3	(\$4.2)
U.S. - Mexico Border	\$4,149.5	\$5,364.6	\$6,484.4	\$1,119.8
Water Infrastructure:Mexico Border	\$75,000.0	\$75,000.0	\$50,000.0	(\$25,000.0)

FY 2004 Request

EPA's activities under this objective address transboundary environmental threats along the U.S. border areas, in shared North American ecosystems, as well as in the Great Lakes. Activities focus on the U.S.-Mexico Border, the U.S.-Canada Border, the Great Lakes Program, and marine and Arctic environments.

U.S./Mexico Border

Communities along the 2,000 mile U.S.-Mexico border are experiencing rapid economic and population growth, as well as environmental problems, much of it driven by increased trade between the countries. The Border population, which has doubled in the last 15 years, is now at 12.6 million and is expected to double again in the next 20 years. The development of new environmental infrastructure has not kept pace with this growth and as a result the area is experiencing water scarcity, serious gastrointestinal and respiratory illness, and hazardous and non-hazardous waste disposal problems.

Based on the results of the "U.S.-Mexico Border XXI Program: Progress Report 1996-2000" and public comments, EPA developed the Border 2012: US-Mexican Environment Program, that will focus limited resources in areas which can most directly lead to improvements in public health and environmental conditions in this area. The Border 2012 Program will transfer to the states and local communities substantial responsibility to set priorities and manage program implementation based on explicit environment and public health goals and objectives with measurable outcomes.

The Border 2012 Program will focus on the following: 1) reducing the effects of the environment on human health; 2) improving air quality through monitoring and control strategies; 3) funding wastewater and drinking water infrastructure investments in under-served communities; 4) managing chemical accidents through completing joint chemical accident contingency plans; 5) supporting pollution prevention programs that will, over the long term, reduce the adverse health and environmental effects of pollutants; 6) reducing and effectively managing hazardous and solid wastes through using tracking mechanisms; 7) strengthening

binational cooperation between institutions responsible for enforcing their respective country's environmental laws; and 8) strengthening coordination of pesticide activities linking the work on regulatory harmonization with field implementation projects to protect field workers and assure safe food supplies.

A significant number of residents along the U.S.-Mexico border area are without basic services such as potable water and wastewater treatment and the problem has become progressively worse in the last few decades. In January 2001, EPA estimated water and wastewater infrastructure needs along the U.S.-Mexico border at \$4.5 billion. For FY 2004, the Agency has established a goal that cumulatively 990,000 people will be protected from health risks because of the construction of adequate water and wastewater sanitation systems. To respond to serious health threats due to environmental infrastructure deficits, EPA will work with two key partners, the Border Environment Cooperation Commission (BECC) and the North American Development Bank, which manages the Border Environmental Infrastructure Fund (BEIF), to support the financing and construction of water and wastewater treatment. The United States Government committed to funding \$700 million towards the Mexico Border project. Between FY 1994 and FY 2002, \$682.6 million has been appropriated. However, in recognition of the area's continuing environmental and public health needs, in FY 2004, EPA is proposing \$50 million for infrastructure funding for the U.S.-Mexico border.

Great Lakes

The Great Lakes National Program Office (GLNPO) will coordinate implementation of a community-based approach in the Great Lakes by its Federal, state, Tribal, and local partners. GLNPO will lead partners in meeting objectives in the 2002 Great Lakes Strategy.

EPA will assess and report on the state of key Great Lakes ecosystem components, make status and trend information available to Great Lakes environmental managers, and coordinate measurement of a limited number of environmental indicators applicable to the entire Great Lakes Basin including trends in toxics in air and fish; beach closings; trophic status; phosphorus; and contaminated sediment remediation. Great Lakes fish toxic concentrations (PCBs in Lake trout) are expected to be 5 percent lower than the previous year, but will still be far above levels at which fish advisories can be removed. Great Lakes toxics have been associated with disturbed reproductive function, developmental disorders, impairments in memory and learning, and increased cancer risk. GLNPO will also monitor chemicals of emerging concern that are increasing in Great Lakes sediment and biota, such as brominated flame retardants and perfluorooctane sulfate.

GLNPO will monitor Great Lakes indicators with the research vessel Lake Guardian (open lake monitoring), the research vessel Mudpuppy (nearshore sediments monitoring), and the joint GLNPO/Environment Canada Integrated Atmospheric Deposition Network (including air monitoring stations on each Great Lake) consistent with the 2002 Great Lakes Strategy and the biennial State of the Lakes Ecosystem Conference (SOLEC - a biennial conference bringing together representatives of the public and private sectors to facilitate decision making based upon sound environmental information). Management adjustments based on monitoring results can facilitate cost-effective pollutant reductions by the Agency and its State and other partners and will provide trend and baseline data to support and target remedial efforts and measure

environmental progress under Remedial Action Plans (RAPs) and Lakewide Management Plans (LaMPs). GLNPO will lead development of management recommendations to address the inexplicably low dissolved-oxygen levels in Lake Erie, which have resulted in an increasing "dead zone," despite U.S. and Canadian success in achieving total phosphorus targets. EPA will also expand access to Great Lakes environmental information via the Internet.

EPA will work with Environment Canada and lead domestic partners in implementing the Great Lakes Binational Toxics Strategy. The Strategy, a groundbreaking international toxics reduction effort, targets a common set of persistent, toxic substances for reduction and virtual elimination. It focuses on pollution prevention, using voluntary and regulatory tools to achieve reductions, and contains reduction challenges for a targeted set of substances, e.g., mercury, PCBs, dioxins/furans, and certain canceled pesticides. Through grants and technical support to ten or more stakeholders (such as the Great Lakes States, Tribes, environmental groups, and industrial or municipal sectors), EPA will stay on target for meeting goals for 2006 established in the Great Lakes Strategy and the Binational Toxics Strategy: PCBs (90 percent use reduction), Mercury (50 percent use and release reduction), and dioxins and furans (75 percent release reduction). Implementation of the Binational Toxics Strategy outside of the Great Lakes Basin will be augmented through cross-Agency support and activities relating to EPA's Persistent Bioaccumulative Toxics (PBT) Initiative. Toxics highlighted in the Strategy were chosen as the initial set of toxics targeted under the PBT Initiative.

EPA, with its Great Lakes partners, will accelerate the pace at which contaminated sediments are addressed. Contaminated sediments pollute the rivers and harbors of the Great Lakes, including the 31 U.S. and/or bi-national Areas of Concern (AOCs) and are currently addressed through various programs. Since 1989, GLNPO has assisted sediment remediation with technical expertise, financial support, and the use of its sediment-sampling vessel, the R/V Mudpuppy, to support sediment assessments at three to four contaminated sites annually. If a community chooses to remediate the sediments, GLNPO has also provided limited financial support to demonstrate sediment site cleanup. Over the past five years, GLNPO and partners have remediated 100,000 to 400,000 cubic yards of contaminated sediments annually, in order that persistent toxics, which could adversely affect human health will no longer be biologically available through the food chain.

EPA is requesting \$15 million in support of the Great Lakes Legacy Act. The Agency will increase the number of new remedial action starts in the Great Lakes by all partners from three annually to five to six annually. Enacted in November, 2002, the Great Lakes Legacy Act authorizes \$270 million over five years from Fiscal Years 2004-2008 for Great Lakes projects to remediate contaminated sediments, research, and public information. Legacy Act implementation builds upon previous sediment assessment work by GLNPO. It will advance progress under the Great Lakes Strategy by accelerating the pace of contaminated sediment remediation and, long term results will include completing cleanup of all known sites in the Basin before 2025 and potentially accelerating the time required to de-list Areas of Concern.

EPA is working with states and local groups from the AOCs to expedite de-listing of those AOCs. EPA, states, and local communities will strategically target reductions of critical pollutants and restoration of impaired beneficial uses through RAPs for AOCs and through LaMPs for Lakes Ontario, Michigan, Superior, and Erie. The Agency will continue to report to

Congress and the International Joint Commission regarding progress under the Great Lakes Water Quality Agreement.

The Agency will support the efforts of states, tribes, and local communities to protect and restore important habitats, emphasizing habitats important for biodiversity and ecological integrity, such as those necessary for endangered and threatened species. Cooperative efforts initiated with other Great Lakes Wetland Consortium members to implement the only basin-wide monitoring of Great Lakes coastal wetlands will continue. GLNPO will contribute its share towards the Great Lakes Strategy objective of protecting/restoring 100,000 acres of coastal and inland wetlands by 2010. In support of the Strategy's Invasive Species objectives, GLNPO will work with partners to enhance and monitor the effectiveness of the Chicago River Invasive Species barrier, report on results of a joint "No Ballast on Board" study, and finalize a plan for a rapid response to the introduction of invasive species.

Marine and Arctic Environments

Through incremental steps necessary to achieve longer-term objectives of preventing further degradation of the Wider Caribbean and Arctic Ocean, as well as the marine environment more generally, EPA's negotiating efforts, through the International Maritime Organization, are aimed at mitigating marine pollution at a global scale. Regional and global efforts are specifically designed to enhance the effectiveness of existing domestic environmental controls to reduce pollution of U.S. waters resulting from international shipping and other transboundary vectors and thereby protect important natural resources as well as the public health of Arctic Rim populations.

More specifically, programs will prevent or reduce environmental damage associated with tributytin, vessel discharges, invasive species, and ocean dumping. Specific projects aimed at protection of the Arctic ecosystem are focused on preventing and reducing environmental contamination from spent nuclear fuel, PCBs, and dioxins in Northwest Russia. In addition, ongoing efforts to address land-based sources of marine pollution in the Wider Caribbean should result in Regional water quality and marine habitat improvements that include economic benefits. Finally, our involvement in global negotiations is critical to maintain needed flexibility in domestic rulemaking and other environmental policy mechanisms.

FY 2004 Change from FY 2003 Request

EPM

- (+\$15,000,000) This investment will allow for an increase in sediment clean-up activities in the Great Lakes. These funds will be used to begin cleanup on two to three new contaminated sites and to assess and analyze other sites to prepare for future cleanups.
- (+\$1,115,600, +8.0 FTE) Redirection of resources to give greater emphasis to Mexico Border from International Capacity Building programs (objective 5). The shift to Mexico Border is to provide needed FTE resources in the development, coordination and implementation of a new Border XXII Plan.

- (-\$236,700, -3.1 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*
- There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

STAG

- (-\$25,000,000) This reduction in U.S.-Mexico border grant funding will adequately fund border infrastructure construction at its current pace.

GOAL: REDUCTION OF GLOBAL AND CROSS-BORDER ENVIRONMENTAL RISKS

OBJECTIVE: REDUCE TRANSBOUNDARY THREATS TO HUMAN AND ECOSYSTEM HEALTH IN NORTH AMERICA.

Annual Performance Goals and Measures

U.S. - Mexico Border Water/Wastewater Infrastructure

- In 2004 Increase the number of residents in the Mexico border area who are protected from health risks, beach pollution and damaged ecosystems from nonexistent and failing water and wastewater treatment infrastructure by providing improved water and wastewater service.
- In 2003 Increase the number of residents in the Mexico border area who are protected from health risks, beach pollution and damaged ecosystems from nonexistent and failing water and wastewater treatment infrastructure by providing improved water and wastewater service.
- In 2002 Increase the number of residents to 720,000 in the Mexico border area who are protected from health risks, beach pollution and damaged ecosystems from nonexistent and failing water and wastewater treatment infrastructure by providing improved water and wastewater service.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	People
Number of additional people in Mexico border area protected from health risks, because of adequate water & wastewater sanitation systems funded through border environmental infrastructure funding.	720,000	900,000	990,000	

Baseline: There are approximately 11 million residents in the border area.

Great Lakes: Ecosystem Assessment

- In 2004 Great Lakes ecosystem components will improve, including progress on fish contaminants, beach closures, air toxics, and trophic status.
- In 2003 Great Lakes ecosystem components will improve, including progress on fish contaminants, beach closures, air toxics, and trophic status.

In 2002 By removing or containing contaminated sediments, 100,000-200,000 pounds of persistent toxics which could adversely affect human health will no longer be biologically available through the food chain. This contributes to decreasing fish contaminants and advances the goal of removing fish advisories

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Long-term concentration trends of toxics (PCBs) in Great Lakes top predator fish.	Declining	5%	5%	Annual decrease
Long-term concentration trends of toxic chemicals in the air.	Declining	7%	7%	Annual decrease
Total phosphorus concentrations (long-term) in the Lake Erie Central Basin.	Mixed	10	10	Ug/l

Baseline: Identified targets are currently based on historic trends. The trend (starting with 1972 data) for PCBs in Great Lakes top predator fish toxics is expected to be less than 2 parts per million (the FDA action level), but far above the Great Lakes Initiative target or levels at which fish advisories can be removed. The trend (starting with 1992 data) for PCB concentrations in the air is expected to range from 50 to 250 picograms per cubic meter. The trend (starting with 1983 data) for phosphorus concentrations is expected to range from 4 to 10 parts per billion, levels established in the Great Lakes Water Quality Agreement. The 1970 baseline of oxygen depletion of the Lake Erie central basin is 3.8 mg/liter/month. EPA is working with its partners to refine targets within the next 3 years.

Mexico Border Outreach

In 2004 Protect the public health and the environment in the US- Mexico border region.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Increase by 1.5 million the number of people with adequate water and wastewater sanitation systems.			1.5 million	Population served
Train farmworkers on pesticide risks and safe handling, including ways of minimizing families' and children's risks			50	Training Sessions

Baseline: The US-Mexico border region extends more than 3,100 kilometers (2,000 miles) from the Gulf of Mexico to the Pacific Ocean, and 62.5 miles on each side on the international border. More than 11.8 million people reside along the border. The figure is expected to reach 19.4 million by 2020. Ninety percent of the population reside in the 14 paired, interdependent sister cities. Rapid population growth in urban areas has resulted in unplanned development, greater demand for land and energy, increased traffic congestion, increased waste generation, overburdened or unavailable waste treatment and disposal facilities, and more frequent chemical emergencies. Rural areas suffer from exposure to airborne dust, pesticide use, and inadequate water supply and waste treatment facilities. EPA, other U.S. Federal agencies, and the Government of Mexico have partnered to address these environmental problems.

Verification and Validation of Performance Measures

Performance Measure: Concentration trends of toxics (PCBs) in Great Lakes top predator fish

Performance Database: Great Lakes National Program Office (GLNPO) base monitoring program¹.

Data Source: GLNPO's ongoing base monitoring program, which has included work with cooperating organizations such as the U.S. Geological Survey (USGS) and the U.S. Fish and Wildlife Survey (USFWS).

Methods, Assumptions, and Suitability: This indicator provides concentrations of selected organic contaminants in sport fish from the Great Lakes to: (1) determine time trends in contaminant concentrations, (2) assess impacts of contaminants on the fishery, and (3) to assess potential human and wildlife exposures from consuming contaminated sport fish. The data provide two elements of contaminant concentrations: The first element includes data from 600-700 mm lake trout (*Salvelinus namaycush*) whole fish composites (5 fish) from each of the lakes

(walleye, *Stizostedion vitreum vitreum*, in Lake Erie). These data are used to assess time trends in organic contaminants in the open waters of the Great Lakes, using fish as biomonitors. These data can also be used to assess the risks of such contaminants on the health of this important fishery, and on wildlife that consume them.

The second element of the indicator focuses on assessing human exposures via consumption of popular sport fish. Coho (*Oncorhynchus kisutch*) and chinook salmon (*Oncorhynchus tshawytscha*) from each lake (rainbow trout, *Salmo gairdneri*, in Lake Erie) are collected during the fall spawning run, and composite fillets (5 fish) are analyzed for organic contaminants to assess human exposure. The Coho salmon spawn at 3 years of age, and so their body burdens reflect a more focused and consistent exposure time compared to the lake trout which may integrate exposures over 4 to 10 yrs depending on the lake. Chinook salmon spawn after 4-5 years, and have higher (and thus more detectable) concentrations than the Coho salmon and also represent a consistent exposure time. Thus time trends for consistent age fish as well as consistent size fish can be assessed from these data.

QA/QC Procedures: GLNPO has a Quality Management system in place that conforms to the EPA quality management order and is audited every 3 years in accordance with Federal policy for Quality Management. The current Quality Management Plan that describes this program is undergoing revision and should be approved by the end of February, 2003². The QA plan that supports the fish contaminant program is approved and available on request³. The plan that describes the field sampling program is in draft form and should be completed by April 2003⁴.

Data Quality Review: GLNPO's quality management system has been evaluated as "outstanding" in previous peer and management reviews⁵. GLNPO has implemented all recommendations from these external audits and complies with Agency Quality standards.

Data Limitations: The top predator fish (lake trout) program was designed specifically for lakewide trends. It is not well suited to portray localized changes.

Error Estimate: The goal of fish contaminant program is for the contaminant levels in the collected fish to be +/- 20 to 30 % of the actual population values. Although we have observed slight differences between fish contaminant concentrations collected at different sights, when we compare the annual trends of fish contaminant burdens between sites we see no differences.

New/Improved Data or Systems: The GLENDAs database is a significant new system with enhanced capabilities. Existing and future fish data will be added to GLENDAs.

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<http://www.epa.gov/glnpo/glindicators/fishcontaminants.html>

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Performance Measure: Concentration trends of toxic chemicals in the air.

Performance Database: Great Lakes National Program Office (GLNPO) integrated atmospheric deposition network (IADN) operated jointly with Canada¹.

Data Source: GLNPO and Environment Canada are the principal sources of the data. Data also come through in-kind support and information sharing with other Federal agencies, with Great Lake States, and with Canada.

Methods, Assumptions, and Suitability: There are five master IADN stations, one for each lake, which are supplemented by satellite stations in other locations. The master stations are located in remote areas and are meant to represent regional background levels. Concentrations from the master stations are used for the performance measure. Concentrations from the satellite station in Chicago are also sometimes used to demonstrate the importance of urban areas to atmospheric deposition to the Lakes.

Air samples are collected for 24 hours using hi-volume samplers containing an adsorbent. Precipitation samples are collected as 28-day composites. Laboratory analysis protocols generally call for solvent extraction of the organic sampling media with addition of surrogate recovery standards. Extracts are then concentrated followed by column chromatographic cleanup, fractionation, nitrogen blow-down to small volume (about 1 mL) and injection (typically 1 μ L) into GC-ECD or GC-MS instruments.

All IADN data are loaded and quality controlled using the Research Database Management System (RDMQ), a SAS program. RDMQ provides a unified set of quality assured data including flags for each data point that can be used to evaluate the usability of the data. Statistical summaries of annual concentrations are generated by the program and used as input into an atmospheric loading calculation. The loadings calculation is described in detail in the Technical Summary referenced below. However, the averaged concentrations rather than the loadings are used in the performance measure.

QA/QC Procedures: GLNPO has a Quality Management system in place, which conforms to the EPA quality management order and is audited every 3 years in accordance with Federal policy for Quality Management, currently being revised. Quality Assurance Project Plans are in place for the laboratory grantee, as well as for the network as a whole. A jointly-funded QA contractor conducts laboratory audits and tracks QA statistics. Data from all contributing agencies are quality-controlled using the SAS-based system.

Data Quality Review: GLNPO's quality management system has been evaluated as "outstanding" in previous peer and management reviews². This program has a joint Canadian

US quality system and workgroup that meets twice a year. GLNPO has implemented all recommendations from these external audits and complies with Agency Quality standards³.

A regular set of laboratory and field blanks is taken and recorded for comparison to the IADN field samples. In addition, a suite of chemical surrogates and internal standards is used extensively in the analyses. A jointly-funded QA contractor conducts laboratory audits and intercomparisons and tracks QA statistics. As previously mentioned, data from all contributing agencies are quality-controlled using a SAS-based system.

Data Limitations: The sampling design is dominated by rural sites that under emphasize urban contributions to deposition; thus although the data is very useful for trends information, there is less assurance of the representativeness of deposition to the whole lake. There are gaps in open lake water column organics data, thus limiting our ability to calculate atmospheric loadings.

Error estimate: Concentrations have an error of +/- 40%, usually less. Differences between laboratories have been found to be 40% or less. This is outstanding given the very low levels of these pollutants in the air and the difficulty in analysis. The performance measure examines the long-term trend.

New/Improved Data or Systems: GLNPO expects to post joint data that has passed quality review to < <http://binational.net/> >, a newly created joint international web site.

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"Great Lakes National Program Office Indicators. Air Indicators."
<http://www.epa.gov/glnpo/glindicators/atmospheric.html>

Details of these analyses can be found in the Laboratory Protocol Manuals or the agency project plans, which can be found on the IADN resource page at:
http://www.msc.ec.gc.ca/iadn/resources/resources_e.html

Overall results of the project can be found in *"Technical Summary of Progress under the Integrated Atmospheric Deposition Program 1990-1996"* and the Draft *"Technical Summary of Progress under the Integrated Atmospheric Deposition 1997-2002"*. The former can also be found on the IADN resource page.

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Performance Measure: Long term dissolved oxygen depletion trend in Lake Erie.

Performance Database: Great Lakes National Program Office (GLNPO) limnology program.¹

Data Source: GLNPO's ongoing limnology program.

Methods, Assumptions, and Suitability: The GLNPO Open Lake Limnology Program has been operational since 1983 for three of Great Lakes (Michigan, Huron, Erie). In 1986 Lake Ontario was added to the program and in 1992 Lake Superior was added.. Methods and suitability of data discussions can be found in *Sampling and Analytical Procedures for GLNPO's Open Lake Water Quality Survey of the Great Lakes, March 2002.*²

QA/QC Procedures: GLNPO has a Quality Management system in place that conforms to the EPA quality management order and is audited every 3 years in accordance with Federal policy for Quality Management. The current Quality Management Plan that describes this program is undergoing revision and should be approved by the end of February, 2003³. The QA plan that supports the limnology program is approved and available on request (*Sampling and Analytical Procedures for GLNPO's Open Lake Water Quality Survey of the Great Lakes, March 2002*). GLNPO participates in a shared performance evaluation sample program with numerous laboratories in Canada and the US and has performed exceptionally for these parameters.

Data Quality Review: GLNPO's quality management system has been given "outstanding" evaluations in previous peer and management reviews. GLNPO has implemented all recommendations from these external audits and complies with Agency Quality standards.

Data Limitations: The sampling design is based on the Great Lakes International Surveillance Program (1986). It provides coverage of most of the Lake Erie Central basin, but does not provide definitive boundaries for the anoxic zone.

Error Estimate: Environmental measurements are systematically crosschecked by independent methodologies to ensure accuracy within 10% relative percent difference between methodologies. For calculation of annual rates of oxygen depletion, corrections for standardized environmental conditions improve historical correlation coefficients of annual depletion rate over time from $r = 0.45$ to $r = 76$. Inherent ecosystem variability is far greater than measurement error. (See Rosa, F. and N. Burns. 1987. Lake Erie Central Basin Oxygen Depletion Changes from 1929 - 1980. J. Great Lakes Res. 13(4):684-696.)

New/Improved Data or Systems: The GLENDAs database is a significant new system with enhanced capabilities. Existing and future data will be added to GLENDAs.

References:

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Commission. 1986. Great Lakes International Surveillance Program - Lake Erie. Windsor, Ontario.

QMP: Quality Management Plan for the Great Lakes National Program Office, Final Draft July 2002, L. Blume GLNPO QA Manager, US EPA, 77 West Jackson, Chicago, Il. 60604 (previously approved 9/98).

QAPP: Dissolved Oxygen and Temperature Profiles for the Central Basin of Lake Erie. Quality Assurance Project Plan. 2001. U.S. EPA, Great Lakes National Program Office, Chicago.

User guides: www.epa.gov/glnpo/glindicators/water/oxygena.html/

"Quality Management Plan for the Great Lakes National Program Office." October 2002, EPA 905-R-02-009.

Performance Measure: People in the Mexico border area protected from health risks because of adequate water and wastewater sanitation systems funded through border environmental infrastructure funding (cumulative).

Performance Database: No formal EPA database. Performance is tracked and reported quarterly by Border Environment Cooperation Commission (BECC) and North American Development Bank (NADBank). Data field is "population served."

Data Source: 1) U.S. population figures from the 2000 U.S. Census¹; 2) Data on U.S. and Mexican populations served by "certified" water/wastewater treatment improvements from the BECC; 3) Data on projects funded from the NADBank.

Methods, Assumptions and Suitability: Summation of population data from BECC and NADBank. U.S. Census data are assumed to be correct and suitable.

QA/QC Procedures: EPA Headquarters is responsible for evaluation of reports from BECC and NADBank on drinking water and wastewater sanitation projects. Regional representatives attend meetings of the certifying and financing entities for border projects (BECC and NADBank) and conduct site visits of projects underway to ensure the accuracy of information reported².

Data Quality Review: Regional representatives attend meetings of the certifying and financing entities for border projects (BECC and NADBank) and conduct site visits of projects underway to ensure the accuracy of information reported.

Data Limitations: None

Error Estimate: Same as census data.

New/Improved Data or Systems: None.

References:

U.S. Department of Commerce, Bureau of the Census, (Washington, DC: U.S. Department of Commerce, 1990). *Instituto Nacional de Estadística, Geografía y Informática, Aguascalientes, Total Population by State (1990).*

Border Environment Cooperation Commission (BECC), Cd Juarez, Chih, and North American Development Bank (NADBank), (San Antonio, TX, 2002).

Coordination with Other Agencies

U.S./Mexico Border

Over the last several years, EPA has continued to work with the U.S. and Mexican Sections of the International Boundary and Water Commission to further efforts to improve water and wastewater services to communities within 100 km of the U.S.-Mexico Border. Recently, EPA has been involved in efforts to plan, design and construct more than 10 water and wastewater facilities in the Border region.

The Governments of Mexico and the United States agreed, in November 1993, on arrangements to assist communities on both sides of the border in coordinating and carrying out environmental infrastructure projects. The agreement between Mexico and the United States furthers the goals of the North American Free Trade Agreement and the North American Agreement on Environmental Cooperation. To this purpose, the governments established two international institutions.

First, the Border Environment Cooperation Commission (BECC), with headquarters in Ciudad Juarez, Chihuahua, Mexico, assists local communities and other sponsors in developing and implementing environmental infrastructure projects. EPA has provided \$30.5 million through FY 2001 to the BECC project development fund. The BECC also certifies projects as eligible for North American Development Bank financing.

Second, the North American Development Bank (NADBank), with headquarters in San Antonio, Texas, is capitalized in equal shares by the United States and Mexico. NADBank provides new financing to supplement existing sources of funds and foster the expanded participation of private capital. Through 2001, EPA has provided \$339 million to the NADBank through the Border Environmental Infrastructure Fund, BEIF. NADBank issues border grants for individual projects from the BEIF on the agency's behalf.

The United States Government has committed to funding \$700 million since FY 2004 towards the Mexico Border project. Since FY 1994, \$607.6 million has been appropriated, including significant funding for projects managed by the International Boundary and Water Commission and for border Tribal infrastructure projects.

In FY 2003, EPA, in close cooperation with the SEMARNAT (EPA's Mexican counterpart), other Mexican agencies, the U.S. border states, U.S. Indian Tribal Nations and U.S. and Mexican NGOs and academic institutions, developed a new program for the border, Border 2012: U.S.-Mexican Environment Program, that will focus limited resources in areas which can most directly lead to improvements in public health and environmental conditions in this area.

The Border 2012 Program will transfer to the states and local communities the responsibility to set priorities and manage program implementation based on explicit environment and public health goals and objectives with measurable outcomes.

Great Lakes

Pursuant to the mandate in Section 118 of the Clean Water Act to “coordinate action of the Agency with the actions of other Federal agencies and state and local authorities...” GLNPO is engaged in extensive coordination efforts with state, Tribal, and other Federal agencies, as well as with our counterparts in Canada. EPA has joined with states, Tribes, and Federal agencies that have stewardship responsibilities for the Lakes in developing a new Great Lakes Strategy. In addition to the eight Great Lakes States and interested Tribes, partners include the Army Corps of Engineers (Corps), the Coast Guard, the Fish and Wildlife Service (USFWS), the U.S. Office of Geological Survey, the National Oceanic and Atmospheric Administration (NOAA), and the Natural Resources Conservation Service (NRCS). The Strategy joins environmental protection agencies with natural resource agencies in pursuit of common goals. These organizations meet semi-annually as the Great Lakes U.S. Policy Committee to strategically plan and prioritize environmental actions. GLNPO monitoring involves extensive coordination among these partners, both in terms of implementing the monitoring program, and in utilizing results from the monitoring to manage environmental programs. GLNPO’s sediments program works closely with the states and the Corps regarding dredging issues. Implementation of the Binational Toxics Strategy involves extensive coordination with Great Lakes States. GLNPO works closely with states, Tribes, FWS, and NRCS in addressing habitat issues in the Great Lakes. EPA also coordinates with these partners regarding development and implementation of Lakewide Management Plans for each of the Great Lakes and for Remedial Action Plans for the 31 U.S./binational Areas of Concern.

Statutory Authorities

Clean Water Act

Clean Air Act

Toxic Substances Control Act

Resource Conservation and Recovery Act

Pollution Prevention Act

Federal Insecticide, Fungicide, and Rodenticide Act

Organotin Antifouling Paint Control Act

Great Lakes Legacy Act

Annual Appropriation Acts

US-Canada Agreements

1997 Canada-U.S. Great Lakes Binational Toxics Strategy

1996 Habitat Agenda

1990 Great Lakes Critical Programs Act

1987 Great Lakes Water Quality Agreement

1987 Montreal Protocol on Ozone Depleting Substances

1978 Great Lakes Water Quality Agreement (GLWQA)

1909 The Boundary Waters Treaty

North American Free Trade Agreement

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risks

Objective: Reduce Greenhouse Gas Emissions.

By 2010, U.S. greenhouse gas emissions will be substantially reduced through programs and policies that also lead to reduced costs to consumers of energy and reduced emissions leading to cleaner air and water. In addition, EPA will carry out assessments and analyses and promote education to provide an understanding of the consequences of global change needed for decision making.

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Greenhouse Gas Emissions.	\$146,393.0	\$136,953.4	\$138,105.8	\$1,152.4
Environmental Program & Management	\$99,976.1	\$98,104.8	\$99,256.9	\$1,152.1
Science & Technology	\$46,416.9	\$38,848.6	\$38,848.9	\$0.3
Total Workyears	329.9	303.9	299.0	-4.9

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Climate Change Research	\$21,350.5	\$21,729.3	\$21,528.6	(\$200.7)
Climate Protection Program: Buildings	\$48,571.3	\$49,820.5	\$48,324.5	(\$1,496.0)
Climate Protection Program: Carbon Removal	\$1,549.7	\$1,576.5	\$1,734.5	\$158.2
Climate Protection Program: Industry	\$25,368.6	\$25,673.1	\$26,439.1	\$766.0
Climate Protection Program: International Capacity Building	\$6,982.8	\$7,086.5	\$6,608.1	(\$478.4)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Climate Protection Program: State and Local Climate Change Program	\$2,245.6	\$2,275.2	\$2,569.0	\$293.8
Climate Protection Program: Transportation	\$30,830.7	\$21,567.2	\$22,934.7	\$1,367.5
Congressionally Mandated Projects	\$750.0	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and Operations	\$4,461.0	\$4,019.1	\$4,530.9	\$511.8
Legal Services	\$328.2	\$354.5	\$369.9	\$15.4
Management Services and Stewardship	\$2,855.2	\$2,851.7	\$3,030.5	\$178.8
Planning and Resource Management	\$0.0	\$0.0	\$36.0	\$36.0

FY 2004 Request

In February 2002, the President announced a new approach to global climate change designed to harness the power of the markets and technological innovation. The President committed America to cut greenhouse gas intensity by 18 percent over the next decade. This approach supports vital climate change research and ensures that America's workers are not unfairly impacted by climate change strategies. As we learn more about the science of climate change and develop new technologies to mitigate emissions, this annual decline can be accelerated. Focusing on greenhouse gas intensity sets America on a path to slow the growth of greenhouse gas emissions, and – as the science justifies – to stop and then to reverse that growth. Reversing emissions growth will eventually stabilize atmospheric concentrations as emissions decline.

EPA's voluntary climate programs meet the U.S. climate change objectives by working in partnership with businesses and other sectors through programs that deliver multiple benefits – from cleaner air to lower energy bills – while improving overall scientific understanding of climate change and its potential consequences. In FY 2004, EPA expects to continue the significant accomplishments of its Climate Protection Programs (CPPs). The opportunity to save on our nation's \$600 billion annual energy bill over the next decade, while reducing air pollution, is tremendous. The opportunity to reduce greenhouse gas emissions is as great.

The core of EPA's climate change efforts are voluntary government/industry partnership programs designed to capitalize on the opportunities that consumers, businesses, and organizations have for making sound investments in efficient equipment, policies and practices, and transportation choices. In ten years, we expect that more than half the nation's anthropogenic greenhouse gas emissions will come from equipment purchased between now and

then. Thousands of equipment purchases are made every day, and often people buy the equipment that is the least efficient, thereby committing themselves to higher energy bills for 10 to 20 years at a time, depending upon the life of the equipment. At the same time, people often overlook the investment opportunities represented by more efficient equipment -- investment opportunities with the potential of more than double the return on investment of other common options (e.g., money markets, U.S. Treasury bonds).

EPA manages a number of efforts, such as the ENERGY STAR programs, the Commuter Choice Leadership Initiative, and the EPA Clean Automotive Technology (CAT) program, to remove barriers in the marketplace and to deploy technology faster in the residential, commercial, transportation, and industrial sectors of the economy. EPA programs do not provide financial subsidies. Instead, they work by overcoming widely acknowledged barriers to energy efficiency: lack of clear, reliable information on technology opportunities; lack of awareness of energy efficient products and services; lack of financing options to turn life cycle energy savings into initial cost savings for consumers; low incentives to manufacturers for efficiency research and development (R&D); and lack of awareness about more energy efficient transportation choices.

The Agency will continue activities that provide co-benefits to other countries and to the global commons. Global reductions in greenhouse gas emissions can be achieved by recognizing and providing support for in-country environmental issues, such as local air quality, energy access and efficiency, cleaner production, transportation alternatives, and solid waste management (for methane reduction).

EPA's newest voluntary programs are building on previous accomplishments. In 2001, EPA launched partnership programs to promote cleaner, more efficient energy supply through increased renewable energy and combined heat and power (CHP) applications. These "distributed energy" technologies continue to break the link between our nation's increased energy demand and air pollution. CHP and renewable power also help meet the growing need for decentralized, highly reliable power as our nation's electric grid ages. In FY 2002, EPA expanded the national Combined Heat and Power Partnership to over 60 partners, more than tripling the membership from 18 Founding Partners at the program launch in October 2001. In addition, EPA expanded the Green Power Partnership to include over 90 companies, universities, and state and local governments who have made commitments to purchase a set percentage of their power from renewable energy sources. In FY 2002, EPA launched the Climate Leaders program to encourage companies to develop long-term, comprehensive climate change strategies. In addition, the Agency began forming partnerships and initiated a number of transportation efforts focusing both on the industry and state and local sectors, including a program to implement voluntary ground freight management practices as well as technologies that can substantially improve load scheduling and load matching logistics, reduce truck engine idling, and improve truck fuel-efficiency.

Research

EPA's Global Change Research Program supports one of six Administration FY 2004 Interagency Research and Development Priorities - Climate Change Science and Technology. In order to ensure the Program's relevance, research and assessment activities are guided by the

externally peer-reviewed draft Global Change Research Strategy and a draft Multi-Year Plan. These documents articulate the long-term goals, purpose, and priorities of the program, and include a scheduled timeline of research and assessment activities and annual performance goals and measures under the Government Performance and Results Act (GPRA). To maximize the quality of the research conducted under the Global Change Research Program, products such as scientific publications, assessments and documents undergo peer-review, with major or significant products requiring external peer-review. The Agency's Peer Review Handbook (2nd Edition) codifies the procedures and guidance for conducting peer review.

EPA's Global Change Research Program is assessment-oriented and is closely coordinated with the Change Science Program (CCSP), created under the auspices of the cabinet-level Committee on Climate Change Science and Technology Integration (CCCSTI). In addition, the Agency will collaborate closely with the National Oceanic and Atmospheric Administration's (NOAA's) Regional Integrated Science and Assessment Program in order to assure appropriate prioritization and efficiency, to avoid duplication and to assure consistently high standards of scientific review for all aspects of supported studies and analyses.

The Agency's assessment process brings together groups of people with common interests and enables them to work together to address environmental concerns. Through this process, those who may be affected by environmental change (the stakeholders), those who can provide scientific information about that change (researchers and assessors), and those who can respond to that change (resource managers and decision makers) communicate with each other.

Program Accomplishments

EPA has had substantial success across its CPPs and global change research efforts. Through FY 2002, EPA's CPPs (see Table 1) substantially reduced emissions of carbon dioxide (CO₂) and other greenhouse gases such as methane and perfluorocarbons (PFCs). In addition, EPA's CPPs have locked in substantial energy and environmental benefits over the next decade. Since many of the investments promoted through EPA's climate programs involve energy efficient equipment with lifetimes of decades or more, the investments that have been spurred through 2002 will continue to deliver environmental and economic benefits through 2012 and beyond. EPA currently estimates that, based on investments in equipment already made due to EPA's programs through 2002, organizations and consumers across the country will net savings of more than \$70 billion through 2012, and greenhouse gas emissions will be reduced by more than 500 MMTCE through 2012 (cumulative reductions based upon estimated 2002 achievements). These programs continue to be highly cost-effective approaches for delivering environmental benefits across the country. For every dollar spent by EPA on its technology deployment programs, these programs have reduced greenhouse gas emissions by more than 1.0 metric ton of carbon equivalent (3.67 tons of CO₂) and delivered more than \$75 in energy bill savings. This is based upon a cumulative reduction since 1995. Finally, since the mid-1990s, these programs have kept roughly 600,000 tons of smog-forming nitrogen oxide (NO_x) from entering the air.

In addition to these benefits, the transportation research and development component of EPA's CPPs has produced important technological advancements that will generate substantial energy and carbon benefits in future years, while improving America's competitiveness. In FY

2002, EPA made a major commitment to become an active member of the California Fuel Cell Partnership, a public-private venture to demonstrate and promote fuel cell vehicles as a technology that is both environmentally safe and commercially viable. To this end, EPA is adapting the National Vehicle and Fuels Emissions Laboratory to handle hydrogen fuel and to enable testing of fuel cell vehicles.

In FY 2002 alone, the Climate Protection Programs are expected to produce the following results, to be reported for the Government Performance and Results Act (final results will be available in CY 2003):

- reduced greenhouse gas emissions by more than 67 MMTCE;
- reduced energy consumption by an estimated 85 billion kilowatt hours; and,
- demonstrated technology for a hydraulic hybrid full-size pickup truck that exceeded its interim 15 percent fuel economy improvement milestone measured during typical city driving.

Table 1: EPA's Climate Protection Programs

Sector	Program	Activity/Initiative
<i>Buildings</i>	<i>ENERGY STAR</i>	<i>Buildings</i>
		<i>Labeled Products</i>
		<i>Homes</i>
<i>Industry</i>	<i>Carbon Reduction Programs (CO2)</i>	<i>ENERGY STAR for Industry</i>
		<i>Combined Heat and Power Partnership</i>
		<i>Green Power Partnership</i>
		<i>Industry Partnerships</i>
		<i>Waste Wise</i>
	<i>Methane Programs (CH4)</i>	<i>Natural Gas STAR Program</i>
		<i>Landfill Methane Outreach Program</i>
		<i>Coalbed Methane Outreach Program</i>
		<i>Agricultural Programs (Ruminant Livestock Outreach and AgSTAR)</i>
		<i>Landfill Rule</i>
	<i>Programs to Reduce High Global Warming Potential Gases (HFCs, PFCs, SF6)</i>	<i>Voluntary Aluminum Industrial Program</i>
		<i>PFC Emissions Reduction Partnership for the Semiconductor Industry</i>
		<i>SF6 Emissions Reduction Partnership for the Electric Power System</i>
		<i>SF6 Emissions Reduction Partnership for the Magnesium Industry</i>
		<i>Partnership with HCFC-22 manufacturers to reduce HFC-23 emissions</i>
		<i>Significant New Alternatives Program (SNAP)</i>
		<i>Voluntary Partnerships with SNAP Industry Sectors</i>
	<i>Transportation</i>	<i>Transportation Efficiency Programs</i>

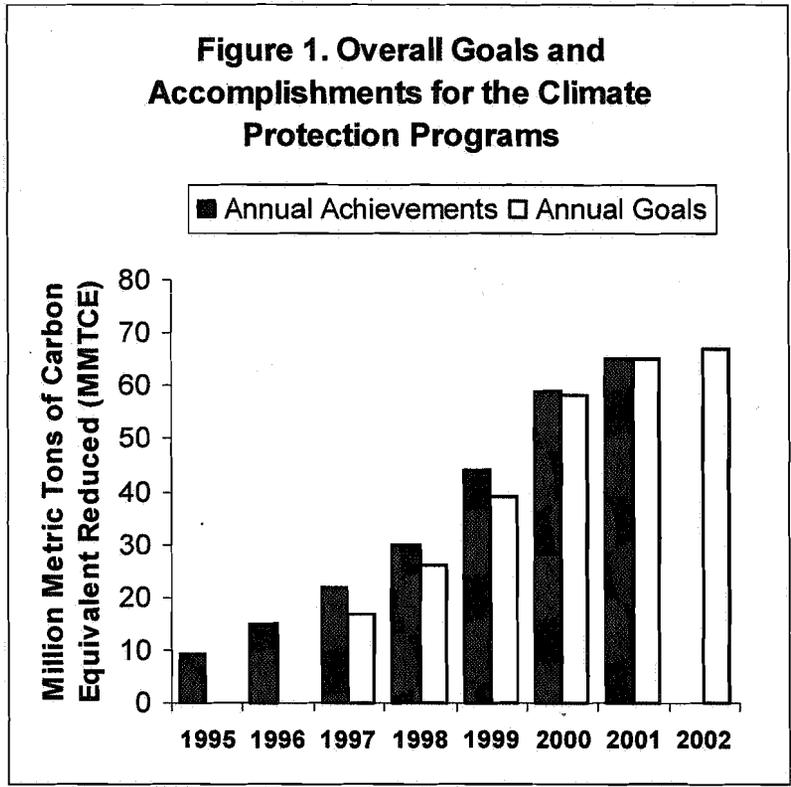
		<i>SmartWay Outreach Program</i>
		<i>Clean Air Transportation Communities Program</i>
		<i>SmartWay Transport Partnership</i>
	<i>Fuel Cell Vehicles and Hydrogen Fuel</i>	<i>Expand test capability for fuel cell vehicle testing, certify first fuel cell vehicles, expand life cycle modeling capability, and actively engage in the national fuel cell and hydrogen debate.</i>
	<i>Clean Automotive Technology (CAT)</i>	<i>Support Cooperative Research and Development Agreements (CRADAs) for Advanced Engine and Powertrains for Hydraulic Hybrid Personal Vehicles such as SUVs, Pickup Trucks and Urban Delivery Vehicles</i>
<i>Carbon Removal</i>		
<i>State and Local Climate Change Outreach Program</i>		
<i>International Capacity Building</i>		
<i>Global Change Research</i>		

In FY 2002, EPA's CPPs have also:

- offset growth in greenhouse gas emissions above 1990 levels by about 20 percent;
- conserved enough energy to light 70 million homes for the year;
- prevented NO_x emissions equivalent to the annual pollution from 40 power plants; and
- avoided greenhouse gas emissions equivalent to eliminating the pollution from about 45 million automobiles for the year.

EPA's climate change programs have met their greenhouse gas reduction goals through FY 2001, as shown in Figure 1, and continue to meet the challenge of substantially higher emissions reduction goals. All of the programs are on target to meet or exceed their specific goals for reducing greenhouse gas emissions and energy consumption, as shown in Table 2.

Figure 1. Overall Goals and Accomplishments for the Climate Protection Programs



The FY 2002 final results will be available in Spring 2003.

The programs have a number of accomplishments through the end of FY 2002 that are highlighted in Tables 3, 4, 5, and 6 for the buildings, industry, transportation and other sectors, respectively.

Table 2. Goals and Accomplishments for Performance Measures: 1998 through 2004¹

Program Area/Key Gases		1998 Accomplished		1999 Accomplished		2000 Accomplished		2001 Accomplished		2002 ² Goal/Accomplished		2003 ³ Goal		2004 ³ Goal	
		kWh Saved (billion)	MMTCE reduced	kWh Saved (billion)	MMTCE reduced	kWh Saved (billion)	MMTCE reduced	kWh Saved (billion)	MMTCE reduced	kWh Saved (billion)	MMTCE reduced	kWh Saved (billion)	MMTCE reduced	kWh Saved (billion)	MMTCE reduced
Buildings		35	7.2	61	12.5	74	15.2	80	16.6	85	17.0 ⁴ /17.0	na	19.2 ⁴	na	21.4 ⁴
Industry	CO ₂	na	4.8	na	5.3	na	5.5	na	5.8	na	6.4 ⁴ /6.4	na	6.7 ⁴	na	7.4 ⁴
	CH ₄	na	5.9	na	8.3	na	13.8	na	16.0	na	15.9 ⁴ /15.9	na	17.0 ⁴	na	18.1 ⁴
	PFCs, SF ₆ , HFCs	na	10.4	na	15	na	20.8 ⁵	na	22.8 ⁵	na	20.6 ^{4,5} /24	na	24.9 ^{4,5}	na	29.6 ^{4,5}
Transportation		na	0.3	na	1.1	na	1.7	na	1.9	na	2.1 ⁴ /2.1	na	2.4 ⁴	na	2.8 ⁴
State and Local		na	1.3	na	1.4	na	1.7	na	1.9	na	2.0 ⁴ /2.0	na	2.0 ⁴	na	2.0 ⁴
Total		35	30	61	44	74	59	80	65	85 ⁴ /85	64 ⁴ /67	95 ⁴	72.2 ⁴	110 ⁴	81.3 ⁴

¹Metrics are not applicable to CAT, International Capacity Building or Global Change Research. The accomplishments of many of EPA's voluntary programs are documented in the Climate Protection Partnerships Division Annual Report. The most recent version, *Partnerships Changing the World: Energy Star and Other Voluntary Programs*, Climate Protection Partnerships Division 2001 Annual Report, EPA 430-R-02-010, August, 2002, is available at: <http://www.epa.gov/cppd>.

²These results are estimates. Final results will be available in Spring 2003.

³The Third National Communication to the Secretariat of the Framework Convention on Climate Change (FCCC) reporting on national progress was submitted in FY 2002. The report provided updated information on U.S. climate protection programs including actual FY 2000 accomplishments and projected benefits in 2010. Goals for the climate protection programs were reviewed and refined as part of this interagency process.

⁴GPRA performance measure

⁵These goals and accomplishments do not include EPA's efforts on self-chilling cans, which resulted in the avoidance of potentially significant emissions of HCFCs into the atmosphere.

Table 3. FY 2002 Program Accomplishments for EPA's Buildings

Program Area

Accomplishments

ENERGY STAR Program

The ENERGY STAR Buildings Partnership represents 17 percent of the U.S. building floor space. Benchmarks are now available for over 40% of the commercial buildings market.

The number of buildings benchmarked doubled from the previous year. EPA's continued work promoting the building energy performance rating systems led to benchmarks representing 15% of the commercial office square footage, 11% of K-12 school floor space, and 18% of U.S. supermarket floor area, just 6 months after its release.

Energy service and product providers have worked with Energy Star to benchmark over 700 buildings for their customers. Over 25% of all Energy Star label awards were through service and product providers.

EPA collaborated with utilities, states and regional energy program partners to promote Energy Star's national energy performance rating system, including the launch of new partnerships in the Northeast, Northwest, Midwest, Texas, and California.

The ENERGY STAR label is recognized as the national label for energy efficiency and many players (including retailers utilities, NGOs, etc.) across the country are using the label to promote efficiency. The label has achieved more than 40% public awareness as of 2002.

Energy Star performance specifications are updated for products in cases where technology has advanced and updates are necessary to maintain the integrity of the Energy Star label. EPA updated specifications for televisions/VCRs, residential air conditioning/heat pumps, residential light fixtures, and boilers.

The program includes products that represent over 60% of energy use in the average household and can help families reduce their energy bills by up to \$400 per year with currently available products that also improve home comfort.

More than 1,200 manufacturing companies have partnered with Energy Star. They produce Energy Star -labeled products across more than 35 product categories. More than 875 million labeled products have been purchased.

EPA has engaged more than 150 utilities/energy service providers that serve approximately 60% of the households in the U.S. in promoting energy efficiency with the ENERGY STAR label.

The program has partnered with more than 450 retailers to promote ENERGY STAR products in more than 7,000 storefronts across the country.

The ENERGY STAR Homes program includes more than 3,000 builders that have built over 100,000 labeled homes, locking in financial savings of more than \$30 million annually for homeowners.

EPA launched its ENERGY STAR Home Sealing Program in New England and the Mid-West, working with key utilities, contractors, and market transformation groups, to promote proper insulation and air sealing for the home envelope.

ENERGY STAR worked closely with the State of New York and Wisconsin to implement Home Performance with ENERGY STAR, a whole house approach to improving a home's energy efficiency cost-effectively.

EPA continues to promote its Home Improvement Toolbox which provides homeowners with information to make cost-effective energy efficiency improvements to their homes. See: <http://www.epa.gov/hhptool/>

ENERGY STAR supported the development of a trained contractor infrastructure by supporting certification organizations and national conferences.

Table 4. FY 2002 Program Accomplishments for EPA's Industry Initiatives

Program Area	Accomplishments
Carbon Reduction Programs	<p><u>ENERGY STAR for industry</u> successfully worked with the motor vehicle and brewing industries in a concentrated effort to improve the energy efficiency of these operations. The process developed for these two industries will be transferred to other U.S. based industries. ENERGY STAR conducted five peer exchanges designed to enhance the energy performance of U.S. industry and the 470 manufacturing partners within the partnership.</p>
	<p>EPA expanded the national <u>Combined Heat and Power Partnership</u> to over 60 partners, tripling the membership from 18 Founding Partners at the program launch in October 2001. The CHP Partnership is working in key state markets—including Illinois, Hawaii, New York, and Texas—to identify and implement favorable policies, and to facilitate new projects at industrial plants, institutional facilities, and commercial buildings.</p> <p>EPA also issued its third annual Energy Star CHP Awards to qualifying high-efficiency projects. See: http://www.epa.gov/chp.</p>
	<p>EPA expanded the <u>Green Power Partnership</u> to include over 90 companies, universities, and state and local governments who have made commitments to purchase a set percentage of their power from renewable energy sources.</p> <p>EPA recognized innovative green power purchasers for their leadership in the first annual Green Power Leadership Awards. See: http://www.epa.gov/greenpower</p>
	<p><u>Industry Partnerships</u>. Climate Leaders was launched in February 2002 and includes more than 35 partners committed to work with EPA to inventory their GHG emissions, set aggressive reduction goals, and report their progress each year.</p> <p>EPA continued to work with industry partners to help them better understand their greenhouse gas emissions and opportunities for cost-effectively reducing these emissions.</p> <p>EPA released core modules of its corporate greenhouse gas inventory protocol (overall design principles, stationary combustion, indirect emissions from electricity, mobile sources, refrigeration/ac, iron/steel, cement) for external review and comment.</p>
	<p><u>Waste Wise</u> now has more than 1,200 partners who have reported reductions of over 35 million tons of solid waste since the program began in 1994, saving more than \$1.1 billion.</p> <p>WasteWise initiated an industries sector campaign to promote large volume waste reductions—electric utilities, pulp and paper, and automotive sectors are included in this initiative with an initial emphasis on beneficial use of coal ash from utilities.</p> <p>EPA worked with key industry, government and Non-Governmental Organizations (NGOs) to develop technical assistance materials to promote the use of resources management as a holistic tool for waste management and reduction. EPA is continuing its efforts to develop a product stewardship agreement with the electronics industry and is working with the carpet industry to implement an agreement reached in 2001.</p>
ethane Programs	<p>The <u>Natural Gas STAR Program</u> partners with 58% of the natural gas industry, working cooperatively with companies in the production, processing, transmission, and distribution sectors.</p> <p>The <u>Landfill Methane Outreach Program (LMOP)</u> assisted in the development of 29 new landfill gas-to-energy projects (bringing the total to over 235) with an additional 200 projects in the construction or planning stages and expected to be online soon. LMOP signed on 32 new partners, bringing the total LMOP partner base to just over 310.</p> <p>The <u>Coalbed Methane Outreach Program (CMOP)</u> helped reduce methane emissions through project development support at 24 project sites. CMOP provided high-quality, project-specific information to project developers.</p> <p>EPA assisted swine and cattle producers in developing waste management systems that produce farm revenues and reduce water and air pollution. About 30 million kWh/yr of renewable energy was produced from farms capturing methane to provide energy for local communities.</p>
Programs to Reduce High Global Warming Potential Gases	<p>EPA continued work with 8 of the 9 U.S. primary aluminum producers representing 20 of the 21 U.S. smelters to increase reductions over our 2001 goal, and to better understand the generation of PFCs in the smelting process and to quantify smelter-specific emissions.</p> <p>EPA expanded the electric power systems partnership to reduce SF₆ emissions to 65 partners representing over 50% of net generating capacity. More than 80% of SF₆ sales are to this sector.</p> <p>EPA expanded the magnesium (Mg) industry partnership to reduce SF₆ emissions to 16 partners representing 100% of primary Mg production and 80% of domestic casting capacity.</p> <p>EPA continued its voluntary partnership with 22 U.S. semiconductor manufacturers representing more than 70% of the industry's emissions. These partners have a goal to reduce PFC emissions 10% below their 1995 baseline by 2010.</p> <p>EPA partners with 100% of the U.S. HCFC-22 producers. These partners use process optimization and abatement to reduce production by-product emissions of HFC-23, which is the most potent and persistent of the HFCs.</p> <p>SNAP reviewed and listed 50 additional substances as acceptable alternatives to ozone-depleting chemicals in over 125 end-uses for a combined total of over 400 acceptable alternatives listed; cooperated with the fire protection industry to revise National Fire Protection Association Standard 2001 on Clean Agent Halon Alternatives; and encouraged the development of new, less-emissive technologies including secondary loop refrigeration systems and adoption of responsible use practices by the fire protection industry for gases with high global warming potential.</p>

Table 5. FY 2002 Program Accomplishments for EPA's Transportation Initiatives

<i>Program Area</i>	<i>Accomplishments</i>
Transportation Efficiency	<p>EPA signed and is supporting nearly 1,300 employers under the <u>Commuter Choice Leadership Initiative</u>, covering a range of industries, businesses, universities, and state and local governments making environmentally sound commuter benefits available to nearly 600,000 employees. See: http://www.commuterchoice.gov/.</p> <p>In 2002, EPA initiated the voluntary <u>SmartWay Transport Partnership</u> to challenge trucking and rail companies to improve their fuel efficiency and to reduce pollution. Some key outputs include: a locomotive idling control project in Chicago, Illinois; a truck and locomotive idling-control demonstration grant program with national, non-profit organizations involved in transportation/air quality issues; an EPA hosted workshop for Northeastern states to begin coordination on creating truck stop electrification projects along I-95 to reduce truck idling; and a charter group of trucking companies that will help EPA create specific performance goals for the industry.</p> <p>EPA continued to coordinate internationally with other industrialized countries and domestically with state and local agencies on effective methods to address climate change transportation issues.</p> <p>EPA is implementing the National SIP Land Use Policy and has partnered with several state and local governments to recognize the transportation emission reduction benefits of smart growth and voluntary land use policies.</p> <p>EPA launched a pilot program to test the potential for reducing vehicle miles traveled through the voluntary Variable Priced Auto Insurance Initiative, using global positioning system transponders to record mileage and price insurance options accordingly.</p> <p>Ten communities continue to participate in the Clean Air Transportation Communities Program, which spurs innovation and measurable reductions in transportation-related emissions by decreasing vehicle miles traveled and increasing use of cleaner technologies, to implement innovative pilot projects at the state, regional, local and Tribal level. There were no new awards in 2002.</p>
Fuel Cells and Hydrogen Fuels	<p>EPA established hydrogen fueling and fuel cell testing capability and certified the first fuel cell vehicle. EPA also joined with other key private and public players in the fuel cell field through the California Fuel Cell Partnership.</p>
Clean Automotive Technology	<p>EPA demonstrated 85 miles per gallon (gasoline-equivalent) on a mid-size car research chassis with a state-of-the-art diesel engine and an EPA-invented, patented, and developed hybrid drivetrain.</p> <p>Using EPA's hydraulic hybrid drivetrain technology, the CAT program exceeded its interim 15% fuel economy improvement milestone on a full-size pickup truck measured during typical city driving.</p> <p>Assisted Cooperative Research and Development (CRADA) partner with unique engineering expertise to achieve a 25% fuel economy improvement measured during urban driving on its prototype 10,000 pound hydraulic hybrid commercial pickup truck.</p>

Table 6. FY 2002 Program Accomplishments for Other Initiatives

Program Area	Accomplishments
Carbon Removal	<p>The carbon sequestration program continued to work collaboratively with the U.S. Department of Agriculture (USDA) on domestic pilot programs, programs designed to address major issues related to implementation of sequestration projects both domestically and internationally.</p> <p>EPA continued to enhance its state-of-the-art capability to evaluate the technical and economic potential of carbon sequestration in both the forest and agriculture sectors, and conducted key analyses on sequestration policy issues. EPA initiated efforts to better understand and quantify the environmental ancillary impacts of carbon sequestration.</p>
State and Local Outreach Program	<p>40 states representing approximately 80% of U.S. carbon dioxide emissions, have completed greenhouse gas emissions inventories with technical assistance from EPA.</p> <p>EPA increased state and local capacity to assess, develop, and implement state-tailored voluntary greenhouse gas emission reduction strategies in 23 states.</p> <p>EPA developed analytic tools to improve understanding of the relationship between greenhouse gas emissions and criteria air pollutants, including a spreadsheet based tool to facilitate state inventories and projections, a software model to calculate both the clean air and greenhouse gas impacts of state and local policies, and a report providing guidance to state and localities on how to make climate friendly decisions.</p> <p>Twenty-one additional U.S. cities joined the EPA-supported "Cities for Climate Protection Campaign" bringing total U.S. participants to 130, with a combined population of over 48 million. In addition to the more than 1.5 MMTCE these cities are reducing each year, they are reducing over 28,000 tons of air pollutants and saving more than \$70 million annually.</p> <p>EPA has funded more than 100 state and local demonstration, research, outreach, or education projects throughout the U.S. since 1990. ICLEI Cities for Climate Protection Campaign actions and EPA demonstration projects completed or underway have achieved total emissions reductions of approximately 2 MMTCE per year. To date, EPA distributed over 5,300 copies of the EPA State and Local Climate Change Outreach Kit to educate stakeholders on the science, impacts, resources and solutions addressing climate change.</p> <p>Six communities participating in the Cities for Climate Protection Campaign joined the EPA-supported "Policy Adoption Peer Exchange Initiative" aimed to help local governments adopt heat island mitigation strategies.</p> <p>EPA communicated with key audiences regarding climate change through publications, conference presentations, and an award-winning website. See: http://www.epa.gov/globalwarming</p>
International Capacity Building	<p>EPA leveraged U.S. experience with market-based mechanisms to help other countries design effective market-based programs.</p> <p>EPA supported the development of rigorous bottom-up greenhouse gas inventories in Russia (4 regions), Kazakhstan, and Ukraine, including energy fuel balances, and national estimates of selected sources such as the high-GWP gases. EPA projects in the countries of the former Soviet Union have reduced greenhouse gas emissions by more than a million metric tons of carbon equivalent in the last five years.</p> <p>EPA provided technical guidance to 49 developing countries in the process of developing their National Communications as required under the UNFCCC.</p> <p>EPA established partnerships with key developing countries to share and transfer energy efficiency program models and clean energy technologies developed in the U.S. Current programs will reduce greenhouse gas emissions in 2010 by 8 MMTCE.</p> <p>EPA supported the interagency planning process for the World Summit on Sustainable Development (WSSD) held in Johannesburg, SA. EPA played a major role in developing several of the initiatives, including the Healthy Homes Initiative and the Children's Health Initiative.</p> <p>EPA's Integrated Environmental Strategies Program, with cooperation from AID, assisted 8 developing countries to evaluate the environmental and human health benefits of technologies and policies for reducing greenhouse gas emissions. Five of these countries have now produced initial evaluations and implementation plans for multiple benefits strategies.</p> <p>EPA initiated a new international transportation outreach program to improve GHG inventories and advance mitigation strategies with developing countries.</p>

Program Goals and Objectives for FY 2004

Despite the significant accomplishments of EPA's programs to date, there remain opportunities to achieve further pollution reductions and energy bill savings from energy efficiency programs and greater use of cost-effective renewable energy. In the U.S., energy consumption causes more than 85 percent of the major air emissions such as NO_x, CO₂ and sulfur dioxide (SO₂). At the same time, American families and businesses spend over \$600 billion each year on energy bills – more than we spend on education. Technologies are available today that can cut this energy use significantly. Other technologies are being developed that may provide even more dramatic opportunities – such as transferring the highly efficient hybrid powertrain components, originally developed for passenger car applications, to meet the more demanding size, performance, durability, and towing requirements of personal vehicles such as Sport Utility Vehicles (SUVs), pickup trucks, and urban delivery vehicle applications, potentially doubling the fuel economy of such vehicles by 2010.

Over the next several years, EPA will build upon its voluntary government/industry partnership efforts to achieve even greater greenhouse gas reductions by taking advantage of additional opportunities to simultaneously reduce pollution and energy bills. EPA will continue to break down market barriers and foster energy efficiency programs, products and technologies, cost effective renewable energy, and greater transportation choices. EPA will continue to work closely with state and local partners to assess the air quality, health, and economic benefits of reducing greenhouse gas emissions and developing practical risk reduction strategies. It will establish international partnerships that will link industrial efficiency, reduction of greenhouse gases, and sustainable development. In FY 2004, EPA's climate change programs are projected to:

- reduce greenhouse gas emissions from projected levels by more than 81.3 MMTCE;
- reduce U.S. energy consumption from projected levels by more than 110 billion kilowatt hours annually;
- reduce other forms of pollution, including air pollutants such as NO_x, particulate matter and mercury from energy efficiency and reduce water pollution (from better fertilizer management);
- contribute to over \$7 billion in net energy bill savings to consumers and businesses that use energy efficient products for the year;
- demonstrate technology for a hydraulic-hybrid urban delivery vehicle or large SUV that achieves 30-50 percent better fuel economy than the typical baseline vehicle (e.g. if a typical large SUV is found to achieve a baseline fuel economy of 17.0 mpg, the CAT program would demonstrate 21.2 - 25.5 mpg for such a vehicle during 2004);
- provide CRADA partners the engineering expertise necessary to transfer EPA's unique and innovative hydraulic hybrid and clean-and-efficient engine technology;

- certify fuel cell vehicles for several manufacturers, establish national standards for life cycle modeling of fuel cells and fuels, and establish rigorous test procedures for fuel cell vehicles;
- provide more flexible and energy efficient alternatives for commuters and freight transporters, and reduce vehicle miles traveled by more than two billion miles;
- assist 10 key developing countries and countries with economies-in-transition in building their capacity to reduce emissions of greenhouse gases through cost-effective measures and participate actively in international discussions of climate protection and assist in the fulfillment of the U.S. obligations under the U.N. Framework Convention on Climate Change (UNFCCC) to facilitate technology transfer to developing countries;
- produce measurable international greenhouse gas emission reductions through clean industrialization partnerships with key developing countries;
- in close cooperation with USDA, identify and develop specific opportunities to sequester carbon in agricultural soils, forests, other vegetation and commercial products, with collateral benefits for productivity and the environment; and
- assess the consequences of global change on human health and ecosystems.

EPA will be working towards the following goals in each of the following program areas over the next ten years:

Buildings: The Buildings Sector represents one of EPA's largest areas of potential, and at the same time is one of its most successful. In the buildings sector, EPA will continue the successful ENERGY STAR partnerships (including ENERGY STAR Labeling, ENERGY STAR Buildings Program, and ENERGY STAR homes). EPA will work toward the goal of offsetting about 24 percent of the growth in greenhouse gas emissions above 1990 levels expected by 2010 in this sector. EPA's programs will contribute about 43 MMTCE annually in greenhouse gas reductions by 2010 while saving businesses and consumers more than \$14 billion. The efforts necessary in FY 2004 to continue to achieve the 2010 goals are detailed in Table 7.

Industry: EPA will continue to build on the success of the voluntary programs in the industrial sector, focusing on reducing CO₂ emissions and continuing the highly successful initiatives to reduce methane emissions and emissions of the high global-warming-potential gases. EPA's goals for these efforts are to: greatly enhance the rate of energy and resource efficiency improvements in industry between now and 2010 (working with DOE); cost-effectively return emissions of methane to 1990 levels or below by 2010; cost-effectively limit emissions of the more potent greenhouse gases (HFCs, PFCs, SF₆); and facilitate the use of clean energy technologies and purchases of renewable energy. EPA will deliver an estimated 115 MMTCE annually by 2010 from these efforts. The efforts necessary in FY 2004 to continue to achieve these 2010 goals are detailed in Table 8.

Transportation: EPA will continue to build and enhance efficient and effective market-driven programs that address the transportation sector's contribution to Climate Change. The transportation sector of the economy contributes about one-third of the inventory of U.S. GHG emissions. The key elements of this effort are the SmartWay Transport Partnership and the

Commuter Choice Leadership Initiative. The SmartWay Transport partnership works with the trucking and railroad industry to achieve cleaner and more efficient vehicles and locomotives by adopting pollution control and energy saving technologies. The goal of the Commuter Choice Leadership Initiative is to offer innovative solutions to commuting challenges faced by U.S. employers and employees by promoting commuter benefits that reduce vehicle trips and miles traveled. EPA estimates that these voluntary programs have the potential to contribute over 12 MMTCE annually in GHG reductions by 2010. In addition, by 2010 EPA estimates these programs will reduce over 200,000 tons of NO_x each year, as well as achieve significant reductions in PM emissions. The efforts necessary in FY 2004 to achieve these goals are detailed in Table 9.

The Agency's Clean Automotive Technology CAT program will further develop advanced clean and fuel-efficient automotive technology with the end result being to better protect the environment and save energy. CAT efforts in 2002 focused on achieving significant fuel economy gains by beginning to transfer these technologies from passenger cars to typical large domestic trucks. The emphasis of CAT work for the next 5-10 years will be research and collaboration with the automotive industry under CRADAs, applying EPA's unique knowledge of hydraulic hybrid technology and advanced clean-engine technologies to personal vehicles such as large SUVs, pickup trucks, and urban delivery trucks. Through work within the CRADAs, significant elements of EPA's technologies will be demonstrated in real-world applications and introduced commercially by vehicle manufacturers between 2005 and 2010.

The CAT program commits EPA to develop technology by the end of the decade to satisfy stringent criteria emissions requirements and up to a doubling of fuel efficiency in personal vehicles such as SUVs, pickups, and urban delivery vehicles -- while simultaneously meeting the more demanding size, performance, durability, and power requirements of these vehicles. For a large SUV with a baseline fuel economy of 17 mpg the resulting fuel economy levels would be 25.5-28.9 mpg in 2006 and up to 34 mpg by 2010. Expanding this technology into 50 percent of new light trucks by 2020 would generate annual fuel savings of 8 billion gallons, while carbon emissions would fall by 25 MMTCE.

EPA will also play a unique role in fuel cell vehicle and hydrogen fuel development by establishing the capability to test a range of fuel cell vehicles and components; taking the national lead in establishing emissions and fuel economy testing protocols and innovating safe laboratory handling of hydrogen fuel; establishing a peer-reviewed life cycle model and promoting its use in R&D and in policy decisions regarding fuel cell vehicle technology pathways; and working closely with other key stakeholders through public/private partnerships like the California Fuel Cell Partnership to facilitate the commercialization of innovative technologies.

Carbon Removal: EPA will build domestic and international consensus around the integration of carbon sequestration activities into a comprehensive climate strategy. Carbon can be sequestered through changes in both forestry and agricultural practices, but these actions are not currently well understood or accepted in many sectors of the international and environmental communities. EPA is working collaboratively with USDA to address the misconceptions regarding carbon sequestration and to ensure that this important mitigation option is developed in an environmentally sound and economically efficient way. EPA and USDA will identify and develop specific opportunities to sequester carbon in agricultural soils, forests, other vegetation

and commercial products, which have collateral benefits for productivity and the environment, and with a carbon removal potential of up to 25 MMTCE by 2010. The efforts necessary in FY 2004 to achieve these 2010 goals are detailed in Table 10.

State and Local: States and localities have a significant and an important role in reducing greenhouse gases, provided they are equipped with the tools they need to integrate climate change into their daily decisions. The state and local program responds to this need by providing guidance and technical information about the air quality, health, and economic benefits of reducing greenhouse gas emissions and developing practical risk reduction strategies. EPA will continue its efforts to build capacity and to provide state and local governments with technical, outreach and/or education services about climate change impacts, mitigation and adaptation, and related issues so that state and local governments may more effectively address their environmental, human health, and economic goals in a comprehensive manner. These efforts are detailed in Table 10.

International Capacity Building: EPA is working with a number of key developing countries to help them: 1) design and implement programs to increase the use of low and zero greenhouse gas technologies; 2) identify, evaluate and implement strategies for achieving multiple social and health or economic benefits while reducing greenhouse gas emissions; 3) design market-based systems to facilitate more significant actions to reduce GHG emissions by these countries under the UNFCCC as well as the infrastructure necessary to implement these actions; and, 4) accurately assess GHG emissions from the transportation sector and implement less energy intensive transportation strategies. Over the next ten years, EPA's goals are to: 1) catalyze significant increases in voluntary, market-driven programs for increasing the use of low and zero greenhouse gas technologies; 2) achieve the full integration of climate considerations into countries' development plans; and 3) establish the technical and institutional basis for major developing countries to take significant actions under the Climate Convention. The efforts necessary in FY 2004 to meet these goals are detailed in Table 10.

Global Change Research: All activities to assess potential impacts of global climate change pursuant to the Global Climate Research Act of 1990, or otherwise, will be developed collectively with the agencies participating in the Climate Change Science Program (CCSP). EPA will also ensure that ongoing research and assessment activities are coordinated with the CCSP. Attention is expected to be given to assessing direct and indirect effects of climate change on human health and aquatic ecosystems, identifying and quantifying the uncertainties associated with those effects, and comparing climate change effects with effects caused by other stressors.

The Agency has developed a UV monitoring network of 14 rural (in National Park Service units) and 7 urban sites. These sites provide data to assess ecosystem and human exposures to UV-B, which has been tied to such issues as immune system depression and increased incidence of melanomas. Data from the network will be coupled with studies of the effects of UV-B radiation on biological systems including potentially sensitive species.

EPA's air quality assessment efforts will inform air quality managers and other decision makers about how global climate change and future technology changes could influence ambient air quality. As part of this research, EPA will be projecting how air emissions that contribute to ozone and particulate matter levels could change under several different technology scenarios

that consider advancements in energy and transportation technologies. This emissions information will be used in regional air quality models that take into account projected climate change by downscaling from global models. The program will determine the impacts of global change on air quality - especially ozone and particulate matter - and also be used to help assess changes in temperature and water quantity and timing (e.g. flooding, less snow pack).

**Table 7. Buildings Programs: Description of Planned Activities
Within FY 2004 Budget Request**

ENERGY STAR Buildings	<p>Actively promote EPA's national energy performance rating system and work with building owners and managers to benchmark an average of 18 percent of the market across office buildings, schools, Federal and state facilities, retail spaces, hospitals, and hotels.</p> <p>Award 2,800 additional Energy Star labels to buildings that reach a benchmark score between 75 and 100.</p> <p>Continue to work closely with the energy services industry to assist these companies in integrating EPA's national energy performance rating system into their customer services, leading to 5,000 benchmarked buildings.</p> <p>Continue to actively recruit new small businesses and organizations into Energy Star for small business to reach over 9,000 partners.</p> <p>Continue to promote the financial value of Energy Star with the Wall Street and financial community.</p> <p>Actively work to improve the efficiency of the Federal government – by working with other agencies to implement key pieces of the Federal Executive Order on building energy efficiency, particularly focusing on assisting agencies to benchmark their buildings and to procure energy efficient products.</p>
ENERGY STAR Products	<p>Implement a new integrated public awareness campaign on energy efficiency to achieve greater recognition of the Energy Star label in the U.S.</p> <p>Coordinate with utility and state partners representing more than 65% of U.S. households in the design and operation of effective state-level energy efficiency programs.</p> <p>Enhance Energy Star labeled product quality through a review of performance specifications for 5 product categories such as imaging equipment and thermostats.</p> <p>Continue working with retailers and equipment contractors to ensure that consumers receive clear information when in the market to purchase products.</p> <p>Continue working in partnership with Canada, the European Community, Japan, Taiwan, Australia, and New Zealand in implementing energy efficiency labeling programs modeled after Energy Star.</p> <p>Promote the purchase of about 160 million Energy Star labeled products in 2004.</p>
ENERGY STAR Homes	<p>Over 90,000 new homes are expected to be constructed as Energy Star in 2004.</p> <p>Promote Energy Star Labeled New Homes in 20 geographic areas.</p> <p>Expand Energy Star to include 80% of the housing stock of the national builders, Pulte, Ryan and Centex.</p> <p>Achieve 50% penetration of Energy Star in the manufactured housing industry.</p> <p>Continue to promote Energy Star to HUD, and state and local housing authorities as the platform for their affordable housing programs.</p> <p>Work with major retailers, such as Home Depot, Lowes, and Sears, to promote ENERGY STAR Home Sealing to consumers.</p> <p>Promote Home Performance with Energy Star in 20 geographic regions to address whole house energy efficiency improvements.</p> <p>Promote proper installation, maintenance, and duct sealing of HVAC systems under the ENERGY STAR banner in 10 geographic regions.</p> <p>Extend Energy Star to the remodeler market.</p> <p>Promote benchmarking as a major tool to spur homeowners to make energy efficiency home improvements.</p>

**Table 8. Industry Programs: Description of Planned Activities
Within FY 2004 Budget Request**

ENERGY STAR for industry	<p>Expand the Energy Star program for industry to address eight industries.</p> <p>Conduct industrial sector focus sessions with three industries.</p> <p>Enhance technical assistance provided to the industrial sector by developing plant energy performance indicators for three additional industries.</p> <p>Maintain the energy peer exchange networking opportunities for the broader U.S. industry by conducting two national meetings, along with a series of centralized peer exchanges accessible to all.</p>
Combined Heat and Power Initiative	<p>Continue to expand efforts in the Northeast, Midwest, and Texas, working with state, local, and industry partners to facilitate new projects. EPA will begin to track new projects as they are developed nationally, along with the associated greenhouse gas reductions.</p> <p>Conduct outreach efforts in the Northwest and Southeast, as well as Hawaii.</p> <p>Work with state and local regulators to identify best practices for regulations that encourage energy efficiency.</p>
Green Power Partnership	<p>Continue to expand partner list by working with green power providers and marketers, as well as purchasers.</p> <p>Work to develop market consensus on national standard for green power purchasing.</p> <p>Work with states to leverage their renewable energy programs through policies such as emissions disclosure.</p>
Industry Partnerships	<p>Continue efforts with industry partners to help them better understand their greenhouse gas emissions and opportunities for cost-effectively reducing these emissions.</p> <p>Continue to improve greenhouse gas tracking guidelines for industry.</p> <p>Expand Climate Leaders program to 50 partners.</p> <p>Issue corporate greenhouse gas inventory design principles and several cross-sector and sector-specific inventory tools.</p> <p>Announce over 10 new corporate greenhouse gas reduction goals.</p>
Waste Wise	<p>Partner with 1,400 businesses through Waste Wise by 2004.</p> <p>Continue to provide direct technical assistance for resource management, a performance-based contracting approach to overcome market barriers to waste reduction in the waste service industry.</p> <p>Continue Product Stewardship as a comprehensive national approach for electronics recycling with tangible industry commitments and state support, leading to measurable increases in electronics recycling and associated climate benefits. In addition, continue to pursue national targets for carpet recovery and meaningful increases in packaging recycling rates.</p> <p>Continue waste-related Greenbuildings efforts in the areas of criteria development and WasteWise recycled-content building challenges. EPA will spur demand for recovered materials by supporting materials and improved waste management for Greenbuilding programs, partnering with industry and states, and responding to request for technical assistance.</p> <p>Work with stakeholders in developing a comprehensive waste sector strategy for greenhouse gas reductions.</p>
Methane Programs	<p>Continue Natural Gas STAR program in all sectors; increase industry-wide participation to 64%.</p> <p>Work with key stakeholders through EPA's Coalbed Methane Outreach Program (CMOP) to increase the market penetration of new greenhouse gas reduction technologies appropriate for combusting mine ventilation air. EPA will continue to provide technical assistance to mining operations as well as monitor and analyze the results from two demonstration projects.</p> <p>Assist a total of 275 landfills through the Landfill Methane Outreach Program (LMOP) with gas utilization projects, to promote newer energy applications, and to increase methane recovery efficiency at existing projects.</p> <p>In the agriculture sector, continue expansion of methane-reducing technologies, such as anaerobic digesters, to help ensure clean water and air for the livestock sector.</p>

Programs to
Reduce High
Global Warming
Potential Gases

The Voluntary Aluminum Industry Partnership (VAIP) will continue to deliver reductions, with VAIP participants reducing the industry's emissions of PFCs by at least 45% percent from the 1990 baseline year.

Work with the U.S. semiconductor partners to achieve their 10% PFC emissions reduction goal by 2010 from their 1995 baseline.

Continue to build the SF₆ Emissions Reduction Partnership for Electric Power systems (utilities) to include partners representing 60% of the industry's net generating capacity.

Expand participation in the SF₆ Emission Reduction Partnership for the Magnesium Industry to represent greater than 80% of U.S. industry emissions. Facilitate global information sharing to achieve cost effective emission reductions of 0.2 MMTCE.

Maintain 100% participation with U.S. HCFC-22 chemical manufacturers to reduce emissions of HFC-23.

Expand the stewardship programs to reduce high global warming potential emissions from other key sources such as the military and ODS replacement industries.

SNAP expects to review and list 10 alternatives to ozone-depleting substances, focusing on the identification of safe and energy-efficient substitutes, including HFCs, for HCFCs in various sectors.

**Table 9. Transportation Programs: Description of Planned Activities
Within FY 2004 Budget Request**

<p>Transportation Efficiency</p>	<p>The <u>Commuter Choice Leadership Initiative (CCLI)</u> reduces emissions of smog-forming and toxic air pollutants, and greenhouse gases, by reducing vehicle miles traveled. EPA partners with employers who agree to adopt an employee commuter benefits program that meets specified performance levels. In FY 2004, EPA will achieve 0.1 to 0.3 MMTCE of emission reductions by: promoting Commuter Choice in 6-10 major metropolitan areas; expanding Commuter Choice to include more than 1,000 employer partners; actively promoting Commuter Choice to industries representing finance, insurance and real estate, government, transportation, retail, telecommunications, entertainment, health care, and universities; expanding Commuter Choice to reach 1.2 million employees (1% penetration of U.S. commuters); promoting Commuter Choice with a series of high visibility events, enhanced marketing materials, and media outreach.; achieving additional pollution reduction of 3,000-6,000 tons of NOx and 12,000 to 30,000 tons of CO; and, gasoline savings of 70-215 million gallons.</p> <p>Establish the <u>SmartWay Outreach Program</u> by promoting a transportation label program on par with Energy Star to identify products which will benefit the environment both globally by reducing CO₂ emissions and locally by reducing NO_x and other smog forming emissions. The SmartWay Outreach Program will achieve these emission reductions by implementing voluntary programs, including the Variable Priced Insurance Initiative.</p> <p>In FY 2004 the <u>SmartWay Transport Partnership</u> will achieve up 0.5 MMTCE reductions, as well as NOx and PM reductions, by:</p> <p>partnering with 10-15 of the largest trucking companies in the U.S. (representing 10% of the freight shipped by truck) and 3 of the 7 largest railroad companies (representing 40% of the freight shipped by rail). Partners will agree to serve as industry leaders to reduce fuel consumption and greenhouse gas emissions through the implementation of negotiated technologies and practices.</p> <p>partnering with 25 manufacturing, retail, and supply companies that hire or contract trucking and/or rail fleets. These companies will agree to hire rail and truck companies that are members of the Green Transport Partnership.</p> <p>developing guidance to state and local governments describing how they can receive SIP, NSR offset, and trading credits for their emission reduction actions under the SmartWayTransport Partnership.</p> <p>building 3 regional coalitions of communities, state and local governments, and trucking and truck stop industries to begin developing plans for construction of idle reduction systems at truck stops along the I-95 (in the Northeast), I-5 (in the West), and I-40 (in the South) interstate corridors.</p> <p>showcasing the emission control effectiveness, fuel efficiency, and commercial viability of innovative diesel emission control technology through joint EPA-partner projects.</p> <p>exploring the commercial viability of a fuel cell auxiliary power units designed to reduce emissions from truck idling by a joint EPA-industry consortium consisting of energy suppliers, trucking fleets, truck equipment manufacturers, and truck stop/travel centers.</p> <p>developing web based software to allow trucking and rail fleets (and other companies) to calculate the amounts of CO₂, NOx, and PM currently produced from trucking and rail operations as well as the reductions they could achieve through Green Transport Partnership activities.</p> <p>creating a national outreach campaign that educates truckers, fleet managers, companies, state/local governments and the general public about the environmental effects caused by moving freight in this country and the most practical, cost effective solutions to mitigate those effects.</p> <p>Promote <u>Smart Growth</u> planning strategies for SIP/conformity purposes.</p> <p>Continue to pursue analyses of emissions trading and other market mechanisms for transportation sources and to provide technical assistance to state and local governments and to developing countries to develop and pilot innovative climate change mitigation options for the transportation sector.</p>
<p>Clean Automotive Technology (CAT)</p>	<p>Continue engineering programs and support of CRADAs by focusing on solving engineering challenges caused by the more demanding size, performance, durability, and power requirements of heavier vehicles by applying EPA's advanced hydraulic hybrid drivetrain and innovative clean and ultra-efficient engines (such as clean diesel and other novel combustion approaches) to demonstrate dramatic fuel efficiency gains.</p>
<p>Fuel Cells and Hydrogen Fuel</p>	<p>EPA will establish lab capability to test of range of fuel cell vehicles; certify several fuel cell vehicles; submit major life cycle model for fuel cells for peer review; and continue to participate in effective government/industry partnerships that advance fuel cell vehicle technology.</p>

**Table 10. Other Programs: Description of Planned Activities
Within FY 2004 Budget Request**

<p align="center">Carbon Removal</p>	<p>Continue to collaborate with USDA on the pilot projects and determine the viability of various carbon sequestration activities as quantifiable means of limiting greenhouse gas emissions.</p> <p>Continue work on enhancing the ability of major macroeconomic models to evaluate the economic value of carbon sequestration and fully appreciating the role of carbon sequestration in addressing climate change.</p> <p>Bring together leading experts from government, industry, and the research community to address several difficult issues related to sequestration projects, including permanence, leakage, monitoring, and verification.</p> <p>Enhance efforts to better quantify the ancillary impacts of carbon sequestration.</p> <p>Work with stakeholders in the forestry and agriculture sectors to promote the development of environmentally sustainable and economically attractive carbon sequestration projects domestically and internationally.</p>
<p align="center">State and Local</p>	<p>Provide targeted support, via tailored technical assistance and recognition, to states eager to integrate climate change into their overall planning and voluntarily reduce their emissions.</p> <p>Continue to assist state and local governments in initiating and updating greenhouse gas inventories, assessing vulnerability to climate change, and evaluating climate change policy impacts on state and local air quality, human health, and economies.</p> <p>Assess and disseminate information about the multiple benefits of greenhouse gas mitigation, including, environmental, health, energy, and economic benefits.</p> <p>Provide training on new tools and models that build understanding of the broader benefits of climate protection and the human health and clean air benefits of mitigation.</p> <p>Integrate GHG emission reduction strategies in State Implementation Plans (SIPs), for states that want to provide credits for GHG reductions</p> <p>Develop tools to facilitate voluntary adoption of heat island reduction activities, including ways to integrate them into state implementation plans (SIPs).</p> <p>Continue to build state and local capacity to address climate change and reduce heat island impacts through improved outreach tools and products, such as through improvements to the EPA Global Warming Site and Heat Island Site, maintenance of a best practices clearinghouse to promote multi-pollutant emission reduction strategies (e.g., energy efficiency, sustainability, clean energy, and other GHG mitigation measures), an updated catalogue of state legislative activity related to greenhouse gases, and the identification and implementation of additional demonstration projects.</p> <p>Translate key scientific findings into a format more readily understandable to the public.</p> <p>Increase awareness of global, regional, and local impacts of climate change focusing on areas of potential vulnerability.</p> <p>Develop risk characterization methods to encourage effective public response to climate change, and continue work on the strategic coastal response program.</p>
<p align="center">International Capacity Building</p>	<p>Continue and expand cooperation with China, Mexico, Brazil, Korea, Philippines, and India.</p> <p>Create an air quality and transportation policy tool-kit which, in cooperation with the World Bank and other partners, would be shared with 12-16 countries.</p> <p>Build the capacity in major emitter countries (India, Russia, Brazil, and Indonesia) to develop reliable emission inventories in support of sustained emissions reduction strategies.</p> <p>Enhance capacity for energy and GHG audits for selected industrial sectors (such as, cement, iron, and steel) in 4-5 major emitter countries.</p> <p>Establish regional energy and GHG information networks in three major regions of the world.</p> <p>Promote opportunities for more effective North American electricity markets and broaden related analyses.</p> <p>Build regional centers of financial expertise in Russia and China for climate and energy projects.</p> <p>Assess design of compliance infrastructure and market-based mechanisms, in order to increase incentives and capacities for a more level environmental playing field internationally.</p> <p>Move key developing countries toward climate and public-health friendly policies by building analytical capacity and strengthening partnerships.</p> <p>Improve energy efficiency in buildings and appliances in Latin America and Asia and accelerate adoption of clean technologies in China and Korea.</p> <p>Work with export credit agencies, international organizations, and commercial finance institutions to identify and overcome barriers to commercial investment in clean technologies in developing countries.</p>

FY 2004 Change from FY 2003 Request

EPM

- (+\$775,400, +1.2 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*
- (-\$673,100, -4.2 FTE) These resources have been redirected to capacity work in developing countries (6.5) that will focus on air pollution issues (i.e. mobile sources, Particulate Matter).

Research

S&T

- (+\$2,023,700) These resources will support increased research and assessment activities to improve our understanding of the consequences of global change on air quality, including tropospheric ozone and particulate matter. This will involve the development of models and methodologies for analyzing the consequences of global change on regional air quality, including the identification, development, and evaluation of methods for relating global changes to future regional conditions relevant to air quality by making projections across long temporal scales and examining relationships between global and regional spatial scales.
- (-\$462,340, -2.2 FTE) Workyears and associated costs supporting landscape ecology research and assessment activities will be consolidated in Objective 8.1, Ecosystems Research. This is a technical adjustment.
- (-\$2,023,700) This reduction in FY 2004 represents the completion of planned research and assessment activities examining ecosystem and human resilience to global change. Beginning in FY 2004, these resources will be targeted at activities to improve our understanding of the consequences of global change on air quality, including tropospheric ozone and particulate matter.
- There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: REDUCTION OF GLOBAL AND CROSS-BORDER ENVIRONMENTAL RISKS

OBJECTIVE: REDUCE GREENHOUSE GAS EMISSIONS.

Annual Performance Goals and Measures

Reduce Greenhouse Gas Emissions

- In 2004 Greenhouse gas emissions will be reduced from projected levels by approximately 81 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.
- In 2005 Greenhouse gas emissions will be reduced from projected levels by approximately 72.2 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.
- In 2006 On track to ensure that greenhouse gas emissions will be reduced from projected levels by approximately 65.8 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.

Performance Measures:	FY 2005 Actual	FY 2005 Pres. Bud	FY 2004 Request	
Annual Greenhouse Gas Reductions - All EPA Programs	On Track	72.2	81.5	MMTCE
Greenhouse Gas Reductions from EPA's Buildings Sector Programs (ENERGY STAR)	On Track	19.7	21.4	MMTCE
Greenhouse Gas Reductions from EPA's Industrial Efficiency/Waste Management Programs	On Track	6.7	7.4	MMTCE
Greenhouse Gas Reductions from EPA's Industrial Methane Outreach Programs	On Track	17.0	18.1	MMTCE
Greenhouse Gas Reductions from EPA's Industrial HFC/PFC Programs	On Track	24.9	29.6	MMTCE
Greenhouse Gas Reductions from EPA's Transportation Programs	On Track	2.4	2.8	MMTCE
Greenhouse Gas Reductions from EPA's State and Local Programs	On Track	2.0	2.0	MMTCE

Baseline: The baseline for evaluating program performance is a projection of U.S. greenhouse gas emissions in the absence of the U.S. climate change programs. The baseline was developed as part of an interagency evaluation of the U.S. climate change programs in 2002, which built on similar baseline forecasts developed in 1997 and 1993. Baseline data for carbon emissions related to energy use is based on data from the Energy Information Agency (EIA). Baseline data for non-carbon dioxide (CO2) emissions, including nitrous oxide and other high global warming potential gases are maintained by EPA. Baseline information is discussed at length in the U.S. Climate Action Report 2002 (www.epa.gov/globalwarming/publications/car/index.html), which provides a discussion of differences in assumptions between the 1997 baseline and the 2002 update, including which portion of energy efficiency programs are included in the estimates. EPA develops the non-CO2 emissions baselines and projections using information from partners and other sources. EPA continues to develop annual inventories as well as update methodologies as new information becomes available.

Reduce Energy Consumption

- In 2004 Reduce energy consumption from projected levels by more than 110 billion kilowatt hours, contributing to over \$7.5 billion in energy savings to consumers and businesses.
- In 2005 Reduce energy consumption from projected levels by more than 95 billion kilowatt hours, contributing to over \$6.5 billion in energy savings to consumers and businesses.
- In 2006 On track to ensure that energy consumption is reduced from projected levels by more than 85 billion kilowatt hours, contributing to over \$10 billion in energy savings to consumers and businesses.

Performance Measures:	FY 2005 Actual	FY 2005 Pres. Bud	FY 2004 Request	
Annual Energy Savings - All EPA Programs	On Track	95	110	Billion kWh

Baseline: The baseline for evaluating program performance is a projection of U.S. greenhouse gas emissions in the absence of the U.S. climate change programs. The baseline was developed as part of an interagency evaluation of the U.S. climate change programs

in 2002, which built on similar baseline forecasts developed in 1997 and 1993. Baseline data for carbon emissions related to energy use is based on data from the Energy Information Agency (EIA). Baseline data for non-carbon dioxide (CO₂) emissions, including nitrous oxide and other high global warming potential gases are maintained by EPA. Baseline information is discussed at length in the U.S. Climate Action Report 2002 (www.epa.gov/globalwarming/publications/car/index.html), which provides a discussion of differences in assumptions between the 1997 baseline and the 2002 update, including which portion of energy efficiency programs are included in the estimates. EPA develops the non-CO₂ emissions baselines and projections using information from partners and other sources. EPA continues to develop annual inventories as well as update methodologies as new information becomes available.

Clean Automotive Technology

In 2004 Transfer hybrid powertrain components, originally developed for passenger car applications, to meet size, performance, durability, and towing requirements of Sport Utility Vehicle and urban delivery vehicle applications with an average fuel economy improvement of 25% over the baseline.

Performance Measures	FY 2002 Actuals	FY 2005 Pres. Bud	FY 2004 Request	MPG
Fuel Economy of EPA-Developed SUV Hybrid Vehicle over EPA Driving Cycles Tested			25.2	

Baseline: The average fuel economy of all SUVs sold in the US in 2001 is 20.2 mpg. Values for 2002, 2003, and 2004 represent 15%, 20%, and 25% improvements over this baseline, respectively. The long-term target is to demonstrate a practical and affordable powertrain that is 30% more efficient by 2005, and 100% more efficient by 2010.

Validation and Verification of Performance Measures

FY 2004 Performance Measure: Annual Greenhouse Gas Emissions Reductions overall and by Sector

Performance Database: Climate Protection Partnerships Division Tracking System.

Data Source: Baseline data for carbon emissions related to energy use comes from the Energy Information Agency (EIA). Baseline data for non-carbon dioxide (CO₂) emissions, including nitrous oxide and other high global warming potential gases, are maintained by EPA. Baseline information is discussed at length in the U.S. Climate Action Report 2002. EPA develops the carbon and non-CO₂ emissions baselines and projections using information from partners and other sources. Data collected by EPA's voluntary programs include partner reports on facility-specific improvements (e.g. space upgraded, kilowatt-hours (kWh) reduced), national market data on shipments of efficient products, and engineering measurements of equipment power levels and usage patterns.

Methods, Assumptions, and Suitability: Most of the voluntary climate programs' focus is on energy efficiency. For these programs, EPA estimates the expected reduction in electricity consumption in kilowatt-hours (kWh). Emissions prevented are calculated as the product of the kWh of electricity saved and an annual emission factor (e.g., MMTCE prevented per kWh). Other programs focus on directly lowering greenhouse gas emissions (e.g., Natural Gas STAR, Landfill Methane Outreach, and Coalbed Methane Outreach); for these, greenhouse gas emission reductions are estimated on a project-by-project basis. EPA maintains a "tracking system" for emissions reductions.

QA/QC Procedures: EPA devotes considerable effort to obtaining the best possible information on which to evaluate emissions reductions from voluntary programs. Peer-reviewed carbon-conversion factors are used to ensure consistency with generally accepted measures of GHG emissions, and peer-reviewed methodologies are used to calculate GHG reductions from these programs.

Data Quality Review: The Administration regularly evaluates the effectiveness of its climate programs through interagency evaluations. The second such interagency evaluation, led by the White House Council on Environmental Quality, examined the status of U.S. climate change programs. The review included participants from EPA and the Departments of State, Energy, Commerce, Transportation, and Agriculture. The results were published in the *U.S. Climate Action Report-2002* as part of the United States' submission to the Framework Convention on Climate Change (FCCC). The previous evaluation was published in the *U.S. Climate Action Report-1997*. A 1997 audit by EPA's Office of the Inspector General concluded that the climate programs examined "used good management practices" and "effectively estimated the impact their activities had on reducing risks to health and the environment..."

Data Limitations: These are indirect measures of GHG emissions (carbon conversion factors and methods to convert material-specific reductions to GHG emissions reductions). Also, the voluntary nature of the programs may affect reporting. Further research will be necessary in order to fully understand the links between GHG concentrations and specific environmental impacts, such as impacts on health, ecosystems, crops, weather events, and so forth.

Error Estimate: These are indirect measures of GHG emissions. Although EPA devotes considerable effort to obtaining the best possible information on which to evaluate emissions reductions from voluntary programs, errors in the performance data could be introduced through uncertainties in carbon conversion factors, engineering analyses, and econometric analyses.

New/Improved Data or Systems: The Administration regularly evaluates the effectiveness of its climate programs through interagency evaluations. EPA continues to update inventories and methodologies as new information becomes available.

References: The U.S. Climate Action Report 2002 is available at: www.epa.gov/globalwarming/publications/car/index.html. The accomplishments of many of EPA's voluntary programs are documented in the Climate Protection Partnerships Division Annual Report. The most recent version is *The Power of Partnerships: Energy Star and Other Voluntary Programs*, Climate Protection Partnerships Division 2001 Annual Report, EPA 430-R-02-010, July, 2002, available at: <http://www.epa.gov/cpd/pdf/cpdann01.pdf>

FY 2004 Performance Measure: Annual Energy Savings

Performance Database: Climate Protection Partnerships Division Tracking System

Data Source: Data collected by EPA's voluntary programs include partner reports on facility specific improvements (e.g. space upgraded, kilowatt-hours (kWh) reduced), national market data on shipments of efficient products, and engineering measurements of equipment power levels and usage patterns.

Methods, Assumptions, and Suitability: Most of the voluntary climate programs' focus is on energy efficiency. For these programs, EPA estimates the expected reduction in electricity consumption in kilowatt-hours (kWh). Emissions prevented are calculated as the product of the kWh of electricity saved and an annual emission factor (e.g., MMTCE prevented per kWh). Other programs focus on directly lowering greenhouse gas emissions (e.g., Natural Gas STAR).

Landfill Methane Outreach, and Coalbed Methane Outreach); for these, greenhouse gas emission reductions are estimated on a project-by-project basis. EPA maintains a "tracking system" for energy reductions.

Energy bill savings are calculated as the product of the kWh of energy saved and the cost of electricity for the affected market segment (residential, commercial, or industrial) taken from the Energy Information Administration's (EIA) *Annual Energy Outlook 2002* and *Annual Energy Review 2000* for each year in the analysis (1993-2012). Energy bill savings also include revenue from the sale of methane and/or the sale of electricity made from captured methane. The net present value (NPV) of these savings was calculated using a 4-percent discount rate and a 2001 perspective.

QA/QC Procedures: EPA devotes considerable effort to obtaining the best possible information on which to evaluate energy savings from its voluntary programs.

Data Quality Review: The Administration regularly evaluates the effectiveness of its climate programs through interagency evaluations. The second such interagency evaluation, led by the White House Council on Environmental Quality, examined the status of U.S. climate change programs. The review included participants from EPA and the Departments of State, Energy, Commerce, Transportation, and Agriculture. The results were published in the *U.S. Climate Action Report-2002* as part of the United States' submission to the Framework Convention on Climate Change (FCCC). The previous evaluation was published in the *U.S. Climate Action Report-1997*. A 1997 audit by EPA's Office of the Inspector General concluded that the climate programs examined "used good management practices" and "effectively estimated the impact their activities had on reducing risks to health and the environment..."

Data Limitations: The voluntary nature of programs may affect reporting. In addition, errors in the performance data could be introduced through uncertainties in engineering analyses, and econometric analyses.

Error Estimate: Although EPA devotes considerable effort to obtaining the best possible information on which to evaluate emissions reductions from voluntary programs, errors in the performance data could be introduced through uncertainties in engineering analyses and econometric analyses.

New/Improved Data or Systems: The Administration regularly evaluates the effectiveness of its climate programs through interagency evaluations. EPA continues to update inventories and methodologies as new information becomes available.

References: The U.S. Climate Action Report 2002 is available at: www.epa.gov/globalwarming/publications/car/index.html. The accomplishments of many of EPA's voluntary programs are documented in the Climate Protection Partnerships Division Annual Report. The most recent version is *The Power of Partnerships: Energy Star and Other Voluntary Programs*. Climate Protection Partnerships Division 2001 Annual Report, EPA 430-R-02-010, July, 2002, available at: <http://www.epa.gov/cpd/pdf/cpdann01.pdf>

FY 2004 Performance Measure: Fuel Economy of EPA-Developed SUV Hybrid Vehicle over EPA Driving Cycles Tested

Data Source: EPA fuel economy tests performed at the National Vehicle and Fuel Emissions Laboratory, Ann Arbor, Michigan (NVFEL.)

QA/QC Procedures: EPA fuel economy tests are performed in accordance with the EPA Federal Test Procedure and all applicable QA/QC procedures. Available on the Internet: <http://www.epa.gov/otaq/sftp.htm>.

Methods, Assumptions and Suitability: N/A

Data Quality Reviews: EPA's National Vehicle and Fuel Emissions laboratory is recognized as a national and international facility for fuel economy and emissions testing. NVFEL is also the reference point for private industry.

Data Limitations: Primarily due to EPA regulations, vehicle fuel economy testing is a well established and precise exercise with extremely low test to test variability (well less than 5%). Additional information is available on the Internet: <http://www.epa.gov/otaq/testdata.htm> The one relevant issue is that fuel economy testing of hybrid vehicles (i.e., more than one source of onboard power) is more complex than testing of conventional vehicles. EPA has not yet published formal regulations to cover hybrid vehicles. However, relevant information is available on the Internet: http://www.ctts.nrel.gov/analysis/hev_test/procedures.shtml

Error Estimate: N/A

New/Improved Data or Systems: EPA is using solid engineering judgement and consultations with other expert organizations (including major auto companies) to develop internal procedures for testing hybrid vehicles.

References: See <http://www.epa.gov/otaq/testproc.htm> for additional information about testing and measuring emissions at the NVFEL.

Coordination with Other Agencies

Voluntary climate protection programs government-wide stimulate the development and use of renewable energy technologies and energy efficient products that will help reduce greenhouse gas emissions. The effort is led by EPA and DOE with significant involvement from USDA, the Department of Housing and Urban Development (HUD) and the National Institute of Standards and Technology.

Agencies throughout the government make significant contributions to the climate protection programs. For example, DOE will pursue actions such as promoting the research, development, and deployment of advanced technologies (for example, renewable energy sources). In the case of fuel cell vehicle technology, EPA is working closely with DOE as the Administration's FreedomCAR initiative develops, taking the lead on emissions-related issues. The Treasury Department will administer proposed tax incentives for specific investments that

will reduce emissions. EPA is broadening its public information transportation choices campaign as a joint effort with DOT. EPA coordinates with each of the above-mentioned agencies to ensure that our programs are complementary and in no way duplicative.

This coordination is evident in work recently completed by an interagency task force, including representatives from the Department of State, EPA, DOE, USDA, DOT, OMB, Department of Commerce, USGCRP, NOAA, NASA, and the Department of Defense, to prepare the Third National Communication to the Secretariat as required under the Framework Convention on Climate Change (FCCC). The FCCC was ratified by the United States Senate in 1992. A portion of the Third National Communication describes policies and measures (such as ENERGY STAR and EPA's Clean Automotive Technology initiative) undertaken by the U.S. to reduce greenhouse gas emissions, implementation status of the policies and measures, and their actual and projected benefits. One result of this interagency review process has been a refinement of future goals for these policies and measures which were communicated to the Secretariat of the FCCC in 2002. The "U.S. Climate Action Report 2002: Third National Communication of the United States of America under the United Nations Framework Convention on Climate Change" is available at: <http://unfccc.int/resource/docs/natc/usnc3.pdf>

Research

EPA's Global Change Research Program is closely coordinated with the Administration's Climate Change Science Program (CCSP), which was created under the auspices of the Committee on Climate Change Science and Technology Integration (CCCSTI). In addition, the Agency will collaborate closely with NOAA's Regional Integrated Science and Assessment Program to assure appropriate prioritization and efficiency, to avoid duplication and to assure consistently high standards of scientific review for all aspects of supported studies and analyses.

Statutory Authorities

Clean Air Act, 42 U.S.C. 7401 et seq. - Sections 102, 103, 104, and 108

Clean Water Act, 33 U.S.C. 1251 et seq. - Section 104

Solid Waste Disposal Act, 42 U.S.C. 6901 et seq. - Section 8001

Pollution Prevention Act, 42 U.S.C. 13101 et seq. - Sections 6602, 6603, 6604, and 6605

National Environmental Policy Act, 42 U.S.C. 4321 et seq. - Section 102

Global Climate Protection Act, 15 U.S.C. 2901 - Section 1103

Federal Technology Transfer Act, 15 U.S.C. - Section 3701a

Research

U.S. Global Change Research Program Act of 1990

United Nations Framework Convention on Climate Change

National Climate Program Act of 1997

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risks

Objective: Reduce Stratospheric Ozone Depletion.

By 2005, ozone concentrations in the stratosphere will have stopped declining and slowly begun the process of recovery. In addition, public education to promote behavior change will result in reduced risk to human health from ultraviolet (UV) overexposure, particularly among susceptible subpopulations such as children.

Resource Summary
(Dollars in Thousands)

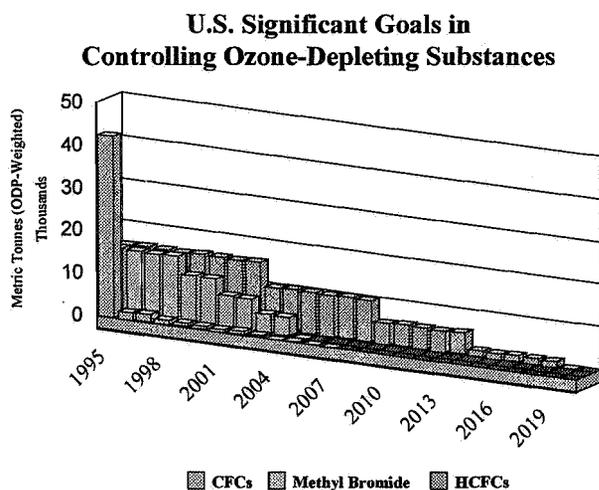
	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Stratospheric Ozone Depletion.	\$14,749.8	\$15,813.3	\$17,540.3	\$1,727.0
Environmental Program & Management	\$14,749.8	\$15,813.3	\$17,540.3	\$1,727.0
Total Workyears	30.1	29.7	30.3	0.6

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Facilities Infrastructure and Operations	\$489.3	\$419.8	\$489.7	\$69.9
Legal Services	\$76.5	\$82.1	\$85.7	\$3.6
Management Services and Stewardship	\$98.9	\$93.4	\$178.3	\$84.9
Multilateral Fund	\$9,575.8	\$9,575.8	\$11,000.0	\$1,424.2
Stratospheric Ozone Protection	\$5,602.7	\$5,642.2	\$5,786.6	\$144.4

FY 2004 Request

The stratospheric ozone layer protects life on earth from harmful UV radiation; a depleted ozone layer allows more UV radiation to reach the earth. The increased levels of UV radiation due to ozone depletion can lead to a greater chance of overexposure to UV radiation and consequent health effects including skin cancer, cataracts, and other illnesses.¹ Today, one in five Americans develops skin cancer. Cataracts diminish the eyesight of millions of Americans and cost billions of dollars in medical care each year. EPA is helping to reduce the risks of skin cancer and cataracts by implementing the provisions of the *Montreal Protocol on Substances that Deplete the Ozone Layer* (Montreal Protocol) and the Clean Air Act Amendments of 1990 (the Act). EPA estimates that, in the United States alone, the worldwide phase-out of ozone depleting substances (ODSs) will save 6.3 million lives from fatal cases of skin cancer, and avoid 299 million cases of non-fatal skin cancers and 27.5 million cases of cataracts between 1990 and 2165.²



Scientific evidence amassed over the past 25 years has shown that chlorofluorocarbons (CFCs), halons, hydrochlorofluorocarbons (HCFCs), methyl bromide, and other halogenated chemicals used around the world are destroying the stratospheric ozone layer. The Act provides for a phase-out of production and consumption of CFCs, HCFCs, and other ozone-depleting chemicals, and requires controls on various products containing ODSs.

The United States and 184 other countries are Parties to the Montreal Protocol as of January 14, 2003. The United States has repeatedly affirmed its commitment to this international treaty and to demonstrating world leadership by phasing out domestic production of ODSs, as well as helping other countries find suitable alternatives. As a signatory to the Montreal Protocol, the United States has an obligation to domestically regulate and enforce its terms. In accordance with this international treaty, and related Clean Air Act obligations, EPA implements and enforces rules controlling the production, import, and emission of ODSs, as well as rules requiring the EPA to identify safer alternatives and promote their use to curtail ozone depletion.

Because of the very long lifetimes of ODSs, even after program goals are met, the United States' population will be exposed to higher levels of UV radiation than existed prior to the use and emission of ODSs. The ozone layer is not expected to recover until the mid-21st century at the earliest, according to current atmospheric research. Recognizing this and the current sun-

¹World Meteorological Organization, *Scientific Assessment of Ozone Depletion: 1998*, February 1999.

²Advisory Council on Clean Air Act Compliance Analysis, Science Advisory Board, *The Benefits and Costs of the Clean Air Act 1990-2010*, EPA report to Congress; 1999.

exposure practices of the American public, EPA is encouraging behavioral changes with a goal of reducing UV-related health risks. The Agency is placing special emphasis on education and outreach to children, a particularly vulnerable population, through the SunWise School Program. Protecting young people from the sun is especially important as one to two blistering sunburns before the age of 18 can double a person's risk of melanoma as an adult.

Program Goals and Objectives for FY 2004

- Domestic and international phase-out of production and importation of numerous ODSs:
- Implementation of a Class I chemical phase-out: CFCs, halons, methyl chloroform, carbon tetrachloride, chlorobromomethane, and hydrobromofluorocarbons (HBFCs).
- Development of a marketable allowance allocation program to ensure a graduated phase-out of HCFCs, leading to full phase-out in 2030, in compliance with the Montreal Protocol.
- Implementation of a graduated phase-out of methyl bromide, while allowing for quarantine, pre-shipment, emergency, and critical uses – also employing marketable allowances.
- Expanded monitoring and interception of illegal imports of ODSs, through collaboration with the U.S. Customs Service.
- Implementation of an essential use allowance program for production and importation of CFCs and other ODSs needed for critical applications, such as metered-dose inhalers for asthma and other respiratory illnesses.
- Increased recovery and recycling of ODSs and alternatives in the U.S. and abroad.
- Regulatory review and outreach under the Significant New Alternatives Policy (SNAP) program to ensure that substitutes for ozone-depleting chemicals used across major industry and consumer sectors are safe for public health and the environment.
- Continue the SunWise School Program, with the goal of reducing the risk to children and their caregivers of health effects caused by overexposure to UV radiation.
- Environmental data development and public outreach aimed at informing the public of risks of overexposure to UV radiation.
- Facilitation of earlier voluntary phase-out and refrigerant recycling of CFCs and HCFCs in developing countries.

As noted above, current atmospheric modeling predicts a healing of the ozone layer by the middle of the 21st century, assuming full global compliance with the Montreal Protocol. Because the Protocol makes developing country compliance contingent on support from the

Protocol's Multilateral Fund, continued support for the Montreal Protocol's Multilateral Fund is critical if we are to ensure protection of the ozone layer. Under the Montreal Protocol, the U.S. and other developed countries contribute to the Multilateral Fund to support projects and activities to eliminate the production and use of ODSs by developing countries. To date, the Fund has supported over 4,300 activities in 133 countries that, when fully implemented, will annually prevent emissions of more than 164,000 metric tons of ODSs. In addition, the Fund has reached long-term agreements to dismantle over two-thirds of developing country CFC production capacity and virtually all of developing country halon production capacity. Final closure of related facilities depends on continued funding.

Pollution prevention also is an important element in meeting the objective goals. For example, the National Emission Reduction Program requires recovery and recycling or reclamation of ODSs, primarily in the air-conditioning and refrigeration sectors. The SNAP program will review newly developed alternatives to ODSs, and restrict those alternatives that, on an overall basis, are more harmful to human health and the environment than other alternatives for the same application. EPA, with the help of other Federal agencies, will also continue to facilitate the transition away from remaining uses of other ODSs, such as methyl bromide and HCFCs. Also working with other Federal and international agencies, EPA will continue its intensive efforts to curb illegal imports of ODSs.

Additionally, in FY 2004, EPA will continue the SunWise School Program. The overarching goal of the SunWise Program is to create a comprehensive approach to mitigate the negative impacts associated with depletion of the Earth's protective ozone layer. EPA's SunWise School Program will achieve this goal through the direct education of children and caregivers in how to protect themselves and others from overexposure to UV radiation.

Program Accomplishments

- In FY 2001, consistent with the Montreal Protocol and the Act, EPA reduced methyl bromide production and import by 50 percent from the 1991 baseline. Simultaneously, EPA collaborated with the U.S. Department of Agriculture (USDA) and industry to test and register alternatives to methyl bromide in FY 2000 and FY 2001.
- Between FY 1995 and FY 2001, EPA, along with the Customs Service and Department of Justice, intercepted over 2,500,000 pounds of illegal ODS imports, resulting in more than 110 convictions of illegal importers. Stemming the flow of illegal imports into the U.S. not only ensures global reductions of ozone-depleting emissions, but also prevents undercutting the U.S. domestic market in reclaimed ODSs.
- During FY 1999 through FY 2001, EPA completed several major projects to prevent an increase in ozone-depleting emissions. For example, EPA:
 - Conducted a comprehensive evaluation, in collaboration with the National Aeronautics and Space Administration (NASA), the academic community, and industry, of potential health impacts of ozone depletion resulting from high-speed aircraft flying in the stratosphere.

- Developed and published, with extensive industry input and review, a comprehensive halon recovery and reclamation guide, which focuses on environmentally sound and efficient training and testing uses, de-commissioning, recovery, reclamation, and disposal of halons and containers of halons.
- Banned the distribution and import into the U.S. of refrigerators containing CFCs. The amendment to the existing product ban ensures environmental protection from releases of CFCs, and also avoids undermining U.S. refrigerator manufacturers, all of whom have moved to alternatives.
- listed 31 of the new possible alternatives to ODSs as acceptable for use in refrigeration and air-conditioning, solvent cleaning, aerosols, insulating foams, fire protection, adhesives, coatings and inks, bringing the combined total of acceptable substitutes to approximately 400. EPA also restricted the use of several proposed substitutes to prevent unacceptable risks to the environment, consumer, and worker health and safety.
- EPA ensured the continued availability of CFCs used for metered-dose inhalers relied upon by 14 million patients with asthma and other chronic respiratory diseases.
- EPA's FY 2002 contribution to the Multilateral Fund helped the Fund support cost-effective projects designed to build capacity and eliminate ODS production and consumption in over 60 developing countries.
- During the 2001-2002 school year, the SunWise program grew from 587 to 3,750 participating schools in 50 states, Puerto Rico, and the District of Columbia.

FY 2004 Change from FY 2003 Request

EPM

- (+\$1,424,200) This increase is in support of the Montreal Protocol Multilateral Fund.
- (+\$154,800, +0.6 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

GOAL: REDUCTION OF GLOBAL AND CROSS-BORDER ENVIRONMENTAL RISKS

OBJECTIVE: REDUCE STRATOSPHERIC OZONE DEPLETION.

Annual Performance Goals and Measures

Restrict Domestic Consumption of Class II HCFCs

- In 2004 Restrict domestic consumption of class II HCFCs below 9,906 ODP-weighted metric tonnes (ODP MTs) and restrict domestic exempted production and import of newly produced class I CFCs and halons below 10,000 ODP MTs.
- In 2003 Restrict domestic consumption of class II HCFCs below 9,906 ODP-weighted metric tonnes (ODP MTs) and restrict domestic exempted production and import of newly produced class I CFCs and halons below 10,000 ODP MTs.
- In 2002 On track to restrict domestic consumption of class II HCFCs below 15,240 ODP-weighted metric tonnes (ODP MTs) and restrict domestic exempted production and import of newly produced class I CFCs and halons below 60,000 ODP MTs.

Performance Measures:	FY 2002	FY 2003	FY 2004	
	Actuals	Pres. Bud.	Request	
Domestic Consumption of Class II HCFCs	On Track	<9,906	<9,906	ODP MTs
Domestic Exempted Production and Import of Newly Produced Class I CFC s and Halons	On Track	<10,000	<10,000	ODP MTs

Baseline: The base of comparison for assessing progress on the 2003 annual performance goal is the domestic consumption cap of class II HCFCs as set by the Parties to the Montreal Protocol. Each Ozone Depleting Substance (ODS) is weighted based on the damage it does to the stratospheric ozone - this is its ozone-depletion potential (ODP). Beginning on January 1, 1996, the cap was set at the sum of 2.8 percent of the domestic ODP-weighted consumption of CFCs in 1989 plus the ODP-weighted level of HCFCs in 1989. Consumption equals production plus import minus export.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Restrict Domestic Consumption of Class II HCFCs Restrict Domestic Exempted Production and Import of Newly Produced Class I CFCs and Halons

Performance Database: The Allowance Tracking System (ATS) database is maintained by the Global Programs Division (GPD). ATS is used to compile and analyze quarterly information on U.S. production, imports, exports, transformations, and allowance trades of ozone-depleting substances (ODS).

Data Source: Progress on restricting domestic exempted consumption of Class I CFCs and halons is tracked by monitoring industry reports of compliance with EPA’s phaseout regulations. Data are provided by U.S. companies producing, importing, and exporting ODS. Monthly information on domestic production, imports, and exports from the International Trade Commission is maintained in the ATS. Corporate data are typically submitted as quarterly reports. Specific requirements as outlined in the Clean Air Act are available on the Internet: <http://www.epa.gov/oar/caa/caa603.txt>

Methods, Assumptions and Suitability: Data are aggregated across all U.S. companies for each individual ODS to analyze U.S. total consumption and production.

QA/QC Procedures: Reporting and record-keeping requirements are published in 40 CFR Part 82, Subpart A, Sections 82.9 through 82.13. These sections of the Stratospheric Ozone Protection

Rule specify the required data and accompanying documentation that companies must submit or maintain on-site to demonstrate their compliance with the regulation.

The ATS data are subject to a Quality Assurance Plan. In addition, the data are subject to an annual quality assurance review, coordinated by OAR staff separate from those on the team normally responsible for data collection and maintenance. The ATS is programmed to ensure consistency of the data elements reported by companies. The tracking system flags inconsistent data for review and resolution by the tracking system manager. This information is then cross-checked with compliance data submitted by reporting companies. The GPD maintains a user's manual for the ATS that specifies the standard operating procedures for data entry and data analysis. Regional inspectors perform inspections and audits on-site at the facilities of producers, importers, and exporters. These audits verify the accuracy of compliance data submitted to EPA through examination of company records.

Data Quality Reviews: The Government Accounting Office (GAO) is currently conducting a review of U.S. participation in Five International Environmental Agreements, and is analyzing data submissions from the U.S. under the *Montreal Protocol on Substances that Deplete the Ozone Layer*. No deficiencies are identified.

Data Limitations: None. Data are required by the Clean Air Act.

Error Estimate: None

New/Improved Data or Systems: The GPD continues to explore an improved system whereby direct electronic reporting would be possible.

References: See <http://www.epa.gov/ozone/desc.html> for additional information on ODS. See <http://www.unep.ch/ozone/montreal.shtml> for additional information about the Montreal Protocol and <http://www.unmfs.org/> for more information about the Multilateral Fund.

Coordination with Other Agencies

In an effort to curb the illegal importation of ODSs, an interagency task force was formed consisting of representatives from EPA, the Department of Justice, the Customs Service, the Department of State, the Department of Commerce, and the Internal Revenue Service. The venting of illegally imported chemicals has the potential to prevent the United States from meeting the goals of the Montreal Protocol to restore the ozone layer.

EPA is working with the USDA to facilitate research and development of alternatives to methyl bromide, and to identify and monitor emergency and critical uses of the compound. EPA consults with the USDA in developing rulemakings for exempting certain methyl bromide from production and importation phase-out.

EPA also consults with the Food and Drug Administration (FDA) on the potential for methyl bromide needs. EPA works with the Office of the United States Trade Representative in analyzing potential trade implications in stratospheric protection regulations that affect imports and exports.

EPA works closely with the Centers for Disease Control and the National Weather Service on the UV Index and the health messages that accompany the scientific data. Additionally, EPA is a member of the Federal Council on Skin Cancer Prevention, which is dedicated to educating and protecting all Federal employees from the risks of overexposure to UV radiation.

EPA coordinates closely with the FDA to ensure that sufficient supplies of CFCs are available for the production of life-saving metered-dose inhalers for the treatment of asthma and other lung diseases. This partnership between EPA and FDA blends the critical goals of protecting the public health and limiting damage to the stratospheric ozone layer.

In addition to collecting its own UV data, EPA coordinates with NASA and the National Oceanic and Atmospheric Administration to monitor the state of the stratospheric ozone layer.

EPA works with NASA on assessing essential uses and other exemptions for critical shuttle and rocket needs, as well as effects of direct emissions of high speed aircraft flying in the stratosphere.

EPA works very closely with the Department of State, and other Federal agencies as relevant to the issues at hand, in international negotiations among Parties to the Protocol.

EPA coordinates with the Small Business Administration to ensure that proposed rules are developed in accordance with the Small Business Regulatory Flexibility Act.

Statutory Authorities

Clean Air Act (CAA), Title V (42 U.S.C. 7661-7661f), and Title VI (42 U.S.C. 7671-7671q)

The Montreal Protocol on Substances that Deplete the Ozone Layer

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risks

Objective: Protect Public Health and Ecosystems from PBTs and other Toxics.

By 2006, reduce the risks to ecosystems and human health, particularly in Tribal and other subsistence-based communities, from persistent, bioaccumulative toxicants (PBTs) and other selected toxins which circulate in the environment on global and regional scales.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Protect Public Health and Ecosystems from PBTs and other Toxics.	\$5,391.1	\$6,173.6	\$6,680.7	\$507.1
Environmental Program & Management	\$5,391.1	\$6,173.6	\$6,680.7	\$507.1
Total Workyears	31.8	35.6	36.4	0.8

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Facilities Infrastructure and Operations	\$495.4	\$515.9	\$619.2	\$103.3
Global Toxics	\$1,522.8	\$1,415.1	\$1,557.1	\$142.0
Global Trade Issues for Pesticides and Chemicals	\$3,091.2	\$3,125.4	\$3,367.1	\$241.7
Great Lakes	\$537.6	\$0.0	\$0.0	\$0.0
Legal Services	\$382.4	\$410.7	\$428.8	\$18.1
Management Services and Stewardship	\$31.5	\$26.2	\$41.2	\$15.0
POPs Implementation	\$0.0	\$680.5	\$667.3	(\$13.0)

FY2004 Request

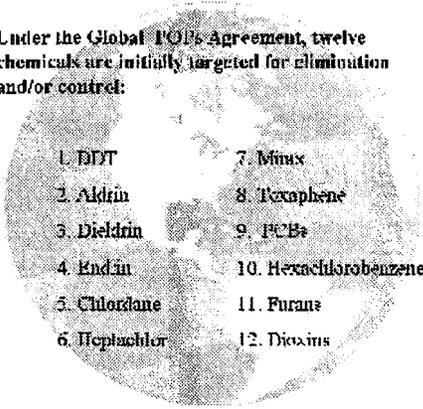
Many human health and environmental risks to the American public originate outside our borders. Many pollutants can travel easily across borders - via rivers, air and ocean currents, and migrating wildlife. Even in the remote Arctic, industrial chemicals such as polychlorinated biphenyls (PCBs) have been found in the tissues of local wildlife. Further, differences in public health standards can contribute to global pollution. A chemical of particular concern to one country may not be controlled or regulated in the same way by another. Harmonization of national standards can assist in reducing global pollution by increasing the number of health and ecological effects any single country may be examining. It may also lower barriers to trade and commerce as countries accept the validity of another's screening or other standards.

EPA's activities under this objective give priority to selected chemicals and certain heavy metals which can persist, bioaccumulate and are toxic (PBTs). PBT chemicals break down slowly in the environment, and elemental metals never degrade. For this reason, PBTs, including persistent organic pollutants (POPs), are very mobile, moving great distances along wind and ocean currents, thereby posing serious risks to human health and the ecosystem in the U.S. and world-wide³. PBTs also enter the food chain accumulating in shellfish, fish, birds and animals that are exposed directly or indirectly through their diets.

EPA is working to reduce potential risk from PBTs on several fronts which include: 1) reducing the release and transboundary movement of PBTs; 2) reducing the levels of exposure to humans and adverse effects to wildlife that may result from these PBTs; 3) assisting additional countries around the world to monitor releases and also manage their use of PBTs; and 4) increasing confidence that consistent PBT obligations will be met. For each of these efforts, the Agency targets the highest risk or greatest concerns first. For example, of all the PBTs, PCBs, dioxins/furans, DDT and certain other pesticides, mercury poses the greatest concern. Thus, in each negotiated agreement or offer of technical assistance, these substances take priority. In addition, certain populations are especially vulnerable, and receive priority consideration. Examples include coastal populations with diets heavy in fish or marine mammals which may contain toxins and endangered wildlife which consume and biomagnify PCBs, DDT or other harmful PBTs⁴.

International agreements form the vehicle for many protective standards. In 2004, EPA will continue to play a key role in the Administration's efforts to implement a number of regional and global instruments with both voluntary and legally binding obligations to control and more safely produce, use, store, and dispose of selected PBTs. In addition, the Agency will continue ongoing

Under the Global POPs Agreement, twelve chemicals are initially targeted for elimination and/or control:

- 
- | | |
|---------------|-----------------------|
| 1. DDT | 7. Mirex |
| 2. Aldrin | 8. Toxaphene |
| 3. Dieldrin | 9. PCBs |
| 4. Endrin | 10. Hexachlorobenzene |
| 5. Chlordane | 11. Furans |
| 6. Heptachlor | 12. Dioxins |

³ EPA web page - Frequently Asked Questions- How do PBTs harm us and the environment?

⁴ EPA web page - Frequently Asked Questions- How do PBTs harm us and the environment?

programs to build the capacity of other countries to reduce risks associated with PBTs, consistent with the obligations of international agreements already in place or now under negotiation.

Binding International Agreements on Certain Persistent Toxics and Prior Informed Consent

Recognizing that environmental loadings of PBTs and the resultant health and environmental risks will increase over time because of expanded production, trade, and use of these substances, in recent years international attention has focused on two groups of PBT substances: persistent organic pollutants (POPs) such as PCBs, dioxins and DDT, and selected heavy metals, most notably mercury.

EPA has been involved in a series of legally binding international agreements concerning various PBT substances and international trade in certain chemicals that are nationally banned or severely restricted. In late 1998 and early 1999, the U.S. and some forty other nations concluded and signed two legally binding regional protocols on POPs and on selected heavy metals (e.g. mercury) under the United Nations Economic Commission for Europe's Convention on Long-Range Transboundary Air Pollution (LRTAP) and the Rotterdam Convention on the Prior Informed Consent (PIC). The LRTAP POPs protocol in turn helped to establish the foundation for the negotiation (under the auspices of the United Nations Environment Programme UNEP) of a legally binding global convention on POPs, also known as the Stockholm Convention. Negotiation of the Stockholm Convention concluded in December 2000 and was signed by EPA Administrator Christine Todd Whitman on May 23, 2001 in Stockholm, Sweden.

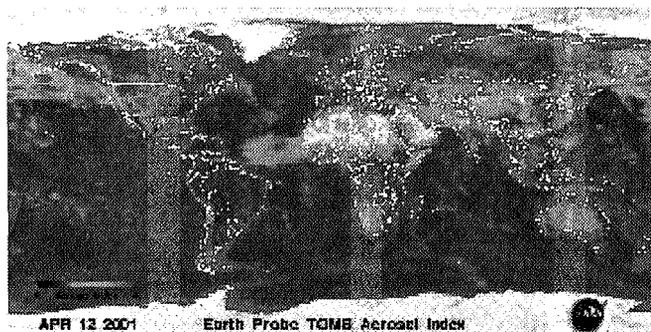
The PIC Convention established a network for voluntary information exchange and provides opportunities for importing countries to make informed decisions when importing certain chemicals that have been subject to control actions in other parts of the world. In FY 2004, EPA will assist developing countries in complying with the provisions of the PIC convention which will result in more informed decision-making on how to best manage the risks posed by trade in restricted chemicals. In the spring of 2002, the Administrator forwarded the Stockholm Convention to the Senate for its advice and consent towards ratification, and submitted a Bill to Congress which would amend the Toxic Substances Control Act (TSCA) and the Federal Insecticide, and Rodenticide Act (FIFRA) to facilitate full implementation of the Stockholm Convention, the LRTAP POPs Protocol, and the Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

The Stockholm Convention bans or restricts manufacture, use, and/or release of 12 selected chemicals. The agreement also addresses export and import restrictions/controls, emission release restrictions, by-product issues, waste management, and the selection of additional substances for control. The long-term success of the agreement will depend in part on the development of release inventories and implementation of capacity building measures in developing countries around the world. The problem is especially acute in the Alaskan Arctic and Great Lakes regions where POPs are taken up in the food chain and impact Native Americans who depend on subsistence foods for their livelihood. As a result, EPA will focus on those countries that are key sources of POPs and most likely impact the U.S., such as Russia, Central America and the Caribbean.

In FY 2004, providing that the U.S. Senate ratifies the POPs Treaty, EPA will initiate an agency-wide POPs implementation strategy for the Stockholm Convention. This program will include four major components: 1) legislation; 2) a new voluntary partnership with industry; 3) an action plan for new POPs chemicals; and 4) an action plan for reassessing currently EPA-registered chemicals. Under the terms of the Stockholm Convention and direction of the Administrator, EPA will also continue to focus on those countries that are key sources of POPs substances and will assist developing countries in meeting their obligations under these agreements.

EPA has developed an international POPs Implementation Plan, the goals of which include: 1) reduction in the releases of POPs reaching the U.S. by long range transport; 2) reduction of sources of POPs in domestic countries of origin, focusing on PCB-containing equipment, obsolete POPs stockpiles, and dioxins and furans emissions from combustion sources; and 3) enabling better inter- and intra-country coordination on POPs implementation activities by improving access to POPs technical, regulatory and program information on the Internet.

In FY 2004, EPA will continue to monitor and develop strategies to address long-range and atmospheric transport of contaminants. For example, current levels of contaminants transported to and deposited in the north Pacific region are a concern. Unless preventative measures are taken, levels will increase due to continued economic growth in the region and the rest of the world. Long-range transport of contaminants to and from the



region is one of many inter-continental and trans-oceanic pathways of concern within a larger context of global atmospheric exchange of contaminants in which all countries participate as both sources and receptors. Other pathways of concern include Saharan dust transport over the tropical Atlantic to the Americas, North American pollutant movement across the North Atlantic, European pollution carried to Asia, and the transport of northern Eurasian contaminants over the frozen Arctic Ocean.

Among heavy metals, mercury is especially noteworthy because it circulates in the environment on a global scale. International cooperation is needed in reducing mercury production, use, and release if substantial risk reductions to humans and their environment are to be achieved by individual countries. In FY 2004, EPA will provide technical expertise and implement mercury reduction activities data to the global mercury assessment. EPA will continue to expand the geographic reach of its mercury monitoring effort by establishing monitoring stations in strategic locations around the world (e.g., Mauna Loa, Hawaii and Ny Alesund, Norway).

Other Risk Reduction Measures for Persistent Toxics

Since 1993, EPA has been actively promoting the phase-out of lead additives in gasoline on the international level. As of 1999, EPA has exceeded the target level selected for the 2005 strategic goal due to significant global reductions in the use of leaded gasoline. In the future, EPA will make additional progress in encouraging more countries to eliminate the use of lead in gasoline thereby resulting in decreased adverse health impacts.

Projects aimed at protection of the Arctic Ecosystem will continue to focus on preventing and reducing environmental contamination from spent nuclear fuel, PCBs, dioxins/furans, and obsolete pesticides in northwestern Russia. These projects aim to assist the Russian Federation in phasing out its manufacture and use, reducing releases and subsequent transport to the Arctic, and encouraging the use of substitutes. These are multi-lateral projects conducted in conjunction with all Arctic Rim countries under the auspices of the Arctic Council. The results of the Russia PCB inventory phase, completed in FY 2000, found PCB inventories of 31,500 tons with the majority of the PCBs found in equipment (27,000 tons) still in circulation. In FY 2002, a feasibility study was conducted to determine appropriate PCB destruction technologies for demonstration. In Fiscal Years 2003 and 2004, the Russia PCB project will move into the next phase by selecting and demonstrating a PCB destruction technology. In FY 2004, the Russia dioxins/furans project will move into its next phase by conducting feasibility studies for pulp and paper industry and industrial burning, and the Russia obsolete pesticides project will move into its first phase with the development of a Russian national inventory of obsolete pesticide stockpiles.

A program started in 2000 focused on pesticides, mercury and lead will continue to target countries in Sub-Saharan Africa (SSA) and specific sectors (i.e., refineries, mining companies, and stockpilers of agricultural chemicals) which are major contributors to globally circulating chemical/toxic risks. This program addresses the growing health and ecosystem risk from rapid urban and industrial development in SSA, and supports U.S. foreign policy and Presidential commitments of engagement with SSA through a community empowerment approach. In 2002, targeted countries and cities are being given information that will assist in implementing environmental regulatory systems on a par with U.S. and international standards. Key activities include pesticide information exchange and training, management of obsolete pesticide stockpiles, lead risk reduction, pollutant release and transfer registration development, and industrial sector environmental improvement.

EPA is engaged with the United Nations Environmental Programme (UNEP) in an Internet Access Project that is targeting officials of developing countries as its primary audience. Through this project, these officials can gain access to information necessary for the sound management of chemicals.

Harmonization of Test Guidelines

Test guidelines are collections of methods for assessing hazard, toxicity, or other properties of chemicals and chemical preparations, such as pesticides and industrial chemicals. Each test guideline provides instructions on how a specific type of test could be adequately performed. Many countries develop their own set of test guidelines in line with their internal

legislative requirements and priorities, and differences in individual test guidelines can adversely impact the trade between countries.

Harmonizing test guidelines across countries offers significant benefits to industry, the public, and the environment, including:

- Reducing the burden on chemical companies and other industries, which otherwise must perform separate, sometimes only slightly different, repeated testing in order to satisfy the regulatory requirements of different jurisdictions both within the United States and internationally;
- Reducing the need for animal testing;
- Expanding the universe of toxic chemicals for which needed testing information is available; and
- Fostering efficiency in international information exchange and mutual international acceptance of chemical test data.

To date, EPA has published nearly one hundred guidelines, a third of which have been harmonized with Organization for Economic Co-operation and Development (OECD) requirements. In 2004, the Agency will continue its involvement in the process for harmonization of additional test guidelines and expects to contribute to the harmonization of five additional test guidelines with the OECD. The achievement of the test guideline sub-objective will lead to simplified and more uniform testing requirements, with guidelines that are acceptable to Federal agencies and a wide array of countries, including our major trading partners.

Development of Pollutant Release and Transfer Registries (PRTRs)

Pollutant Release and Transfer Registries (PRTRs) is the international term for annually reported multi-media emissions inventories, which at a minimum include information on the releases (i.e., air, water, land, underground injection) and transfers (e.g., treatment) of pollutants from industrial sources. The Toxic Release Inventory (TRI) is the United States' version of a PRTR. International attention focused on PRTRs in 1992 when the Earth Summit (held in Rio de Janeiro) encouraged all nations to establish these systems as an integral role in the sound management of chemicals. In North America, all three North American Free Trade Agreement (NAFTA) nations, Canada, the United States and Mexico, have established emissions inventories. There are currently eight nations with PRTRs and more that are either in the process of developing them, or that have expressed an interest in developing such inventories. Fostering public awareness in other countries may help reduce pollution generated in those countries.

EPA remains involved at all levels of the PRTR effort. This involvement includes bilateral discussions and active participation internationally. EPA works closely with the OECD, the North American Commission for Environmental Cooperation (NACEC), the United Nations Institute for Training and Research (UNITAR), and the PRTR Coordination Workgroup, as well as in bilateral activities and in international fora. The U.S. EPA is chairing an OECD PRTR Release Estimation Techniques task force to leverage resources by sharing information

and expertise on guidance to industry. To foster public education around the world, EPA will utilize available resources from the U.S.-Asia Environmental Partnership to provide financial or technical assistance to help nations develop PRTRs.

In FY 2004, countries will begin to set up necessary infrastructure and, by FY 2005, EPA expects that a majority of OECD countries will have established PRTRs or will have PRTRs under development. Besides being used for community purposes, as TRI is currently used in this country, these registries will help monitor the progress countries make in complying with international agreements, such as the Montreal Protocol (ozone depleting chemicals), Basel (waste transfer agreements), and the POPs Treaty.

International Screening Information Data Set (SIDS)

The U.S. is working with other OECD member countries to implement the International Screening Information Data Set (SIDS) program, a voluntary international cooperative testing program started in 1990. The program's focus is on developing base-level test information (including data on basic chemistry, environmental fate, environmental effects and health effects) for international high production volume chemicals. Under OECD, high production volume chemicals are those that are manufactured or imported in quantities of at least two million pounds. SIDS data will be used to screen chemicals and to set priorities for further testing and/or assessment. The Agency will review testing needs for 75-100 SIDS chemicals in 2004.

Technical Assistance to Developing Countries

EPA has been active in global efforts to manage obsolete pesticides that are often stockpiled in developing countries. EPA has been a leader in the United Nations Food and Agriculture (FAO) workgroup that is developing global strategies to address the risks posed by obsolete pesticides. EPA has also developed an international train-the-trainer course "Pesticide Disposal in Developing Countries," based on the growing international problem and demand for technical assistance.

Bilateral Work with Canada and Mexico

EPA will continue to work with the Canadian Government to develop strategies for controlling and ultimately eliminating the remaining uses of two priority persistent bioaccumulative toxic pesticides, pentachlorophenol and lindane, and possibly others yet to be selected. Both chemicals are on the Great Lakes Binational Strategy. In coordination with Mexico, EPA will continue to promote the gradual phaseout of DDT and chlordane, largely through a gradual increase in the use of alternative products and integrated pest management practices. We are also engaged in trilateral work with Canada and Mexico in the framework of the working group on the Sound Management of Chemicals (SMOC).

FY 2004 Change from FY 2003 Request

EPM

- (+\$129,000, 2.0 FTE) This is a redirection of resources from strengthening environmental management capabilities (Objective 5) to capacity efforts for implementation of the Stockholm Convention on Persistent Organic Pollutants. The

redirection will reduce the level of effort directed towards strengthening environmental management to countries in transition.

- (+\$241,700) This increase includes additional support for global trade issues involving chemicals, pesticides and biotechnology.
- (+\$118,300, 0.1 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*
- There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: REDUCTION OF GLOBAL AND CROSS-BORDER ENVIRONMENTAL RISKS

OBJECTIVE: PROTECT PUBLIC HEALTH AND ECOSYSTEMS FROM PBTS AND OTHER TOXICS.

Annual Performance Goals and Measures

Risks from Industrial/Commercial Chemicals (INT)

In 2004 Identify and reduce risks associated with international industrial/commercial chemicals.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
High Production Volume chemicals with complete Screening Information Data Sets (SIDS) submitted to OECD SIDS Initial Assessment Meeting			75	chemicals

Baseline: The baseline is 40 chemicals per year submitted prior to FY2003.

Verification and Validation of Performance Measures

Validating measurements under international capacity-building programs presents several challenges. Technical assistance projects, for instance, typically target developing countries, which often do not have sound data collection and analysis systems in place. Several of the Agency's activities under Goal 6, Objective 4 will over time provide environmental information. Non-technical projects, such as assistance in gaining support from donor countries and organizations must rely on more subjective measures of change. Data verification and validation for each of the key measures under Objective 4 are discussed below.

FY 2003 Congressional Performance Measure: Develop baseline information on atmospheric transport of POP chemicals to sensitive US ecosystems.

Performance Database: None- Manual Collection

Data Source: Project Specific

QA/QC Procedures: Verification does not involve any pollutant database analysis, but will require objective assessment tasks completed.

FY 2003 Congressional Performance Measure: Assist a target country in the Caribbean to address targeted PCB sources.

Performance Database: None- Manual Collection

Data Source: Project Specific

QA/QC Procedures: Verification does not involve any pollutant database analysis, but will require objective assessment tasks completed.

Coordination with Other Agencies

To conclude the international agreements on POPs, heavy metals and PIC substances, EPA must continue to coordinate with other Federal agencies and external stakeholders, such as Congressional staff, industry, and environmental groups, to convey the U.S. approach and solicit constructive criticism. EPA needs to ensure that the list of chemicals and the criteria and process for evaluating future chemicals for possible international controls are based on sound science. To illustrate, the Agency may typically coordinate with the Food and Drug Administration (FDA), FDA's National Toxicology Program, the Centers for Disease Control/Agency for Toxic Substances and Disease Registry (CDC/ATSDR), the National Institute of Environmental Health Sciences (NIEHS) and/or the Consumer Product Safety Commission (CPSC) on matters relating to OECD test guideline harmonization.

EPA's objective is to promote improved health and environmental protection, both domestically and worldwide. The success of this objective is dependent on successful coordination not only with other countries, but with various international organizations such as the Intergovernmental Forum on Chemical Safety (IFCS), the North American Commission on Environmental Cooperation (NACEC), the Organization for Economic Cooperation and Development (OECD), and the CODEX Alimentarius Commission. The North American Free Trade Agreement and cooperation with Canada and Mexico play an integral part in the harmonization of data requirements.

The Agency's goal to develop common or compatible international approaches to pesticide review, registration and standard setting extends to our international partnerships. The partnerships may be grouped into 3 broad categories: (1) policy, (2) programmatic, and (3) capacity building. The Agency, for example, worked closely with other member countries of the OECD to establish a pesticide forum to bring government pesticide regulators together to address

common problems and achieve greater harmonization of policies and procedures. The OECD Pesticide Forum works on five major areas: re-registration, data requirements, risk reduction, test guidelines and hazard assessment. The OECD plans to include establishing internationally harmonized labeling for pesticides.

EPA continues to participate actively in the implementation of the Food and Agriculture Organizations Prior Informed Consent (PIC) agreement, which promotes safe management of chemicals in international trade. PIC provides for notification from countries to the U. N. about pesticides and chemicals that have either been banned or severely restricted for health and/or safety reasons. The Agency is also continuing to work with the U.N. Food and Agriculture Organization (FAO) to promote safe management of chemicals in international trade. The Agency also has worked with the Codex Alimentarius Commission to improve the scientific basis and timeliness of Codex decisions, and boost public participation in the decision-making processes. The Agency also will continue to work with the North American Commission for Environmental Cooperation on the development and implementation of regional action plans to address such PBTs as mercury.

EPA initiated work in 1999 on its Persistent Bioaccumulative Toxics Program (PBTP), which aims to support a variety of domestic and international efforts (noted above). The goal of these efforts is to reduce the risks posed by persistent toxic substances. Through the PBTP, EPA has worked closely with its domestic partners, including state and local governments, as well as industry, environmental and Tribal organizations, plus international counterparts, to promote the objectives of the Initiative. This work has closely paralleled many efforts already underway to conclude and promote the implementation of international agreements on POPs and PIC.

At the EPA regional level, EPA also worked with the NACEC to deal with chemical pollutants of concern to Canada, Mexico, and the United States. The commission approved regional action plans to reduce the use of DDT and chlordane throughout North America.

Statutory Authorities

Pollution Prevention Act (PPA) (42 U.S.C. 13101_13109)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) sections 3,4,5,6,10,11,18,20,23,24,25,30 and 31 (7 U.S.C. 136a, 126a-1, 126c, 136d, 136h, 136i, 136p, 136r, 136u, 136v, 136w, 136w-5 and 136w-6)

Emergency Planning and Community Right-to-Know Act (EPCRA) section 313 (42 U.S.C. 11023)

Toxic Substances Control Act (TSCA) sections 4, 5, 6, 12, and 13 (15 U.S.C. 2603, 2604, 2605, 2611, 2612)

Clean Water Act (CWA) (33 U.S.C. 1251_1387)]

Clean Air Act (CAA)

Federal Food, Drug and Cosmetic Act (FFDCA).

Resource Conservation and Recovery Act (RCRA)

North American Agreement on Environmental Cooperation (NAAEC)

1996 Habitat Agenda, paragraph 43bb

U.S./Canada Agreements on Arctic Cooperation

1989 US/USSR Agreement on Pollution

1991 U.S./Canada Air Quality Agreement

1978 U.S./Canada Great Lakes Water Quality Agreement

1909 Boundary Waters Agreement

World Trade Organization Agreements

North American Free Trade Agreement

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Reduction of Global and Cross-border Environmental Risks

Objective: Increase Domestic and International Use of Cleaner and More Cost-Effective Technologies.

Through 2005, integrate environmental protection with international trade and investment and increase the application of cleaner and more cost-effective environmental practices and technologies in the United States and abroad to ensure that a clean environment and a strong economy go hand-in-hand.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Increase Domestic and International Use of Cleaner and More Cost-Effective Technologies.	\$16,347.9	\$12,601.0	\$12,126.1	(\$474.9)
Environmental Program & Management	\$16,347.9	\$12,601.0	\$12,126.1	(\$474.9)
Total Workyears	57.3	54.7	50.8	-3.9

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Commission for Environmental Cooperation - CEC	\$3,396.4	\$3,535.3	\$3,937.8	\$402.5
Environment and Trade	\$1,672.6	\$1,844.3	\$1,702.5	(\$141.8)
Facilities Infrastructure and Operations	\$815.6	\$792.7	\$860.2	\$67.5
International Safe Drinking Water	\$0.0	\$0.0	\$348.0	\$348.0
Legal Services	\$675.7	\$725.6	\$757.5	\$31.9
Management Services and Stewardship	\$51.0	\$41.7	\$83.9	\$42.2

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Regional and Global Environmental Policy Development	\$1,431.2	\$1,331.3	\$918.0	(\$413.3)
Technical Cooperation with Industrial and Developing Countries	\$4,478.4	\$4,330.1	\$3,518.2	(\$811.9)

FY 2004 Request

Work in FY 2004 will focus on developing the frameworks necessary to perpetuate cleaner and more cost-effective practices by providing developing countries with the tools and training necessary to achieve long-term environmental change. These programs complement technical assistance EPA and other organizations provide by ensuring that the recipient country or region is able to sustain and replicate environmental improvements. These programs also help protect human health and the environment in the U.S. by introducing innovative practices for environmental management, reducing costs and encouraging information flow through data sharing, increasing the demand for U.S. environmental technologies and services, and helping to implement more transparent enforcement and permitting regimes.

Specific objectives include: 1) protecting human health and the environment on global, regional, and national levels by enhancing management capabilities in other countries; 2) promoting environmentally sound trade worldwide through the implementation of the North American Free Trade Agreement's environmental agreements, and through participation in the development of U.S. trade policy; 3) promoting the dissemination of proven and cost-effective environmental technologies and services; and 4) advancing U.S. foreign policy, economic, national security, humanitarian, and other interests abroad.

Trade and Environment

EPA supports trade liberalization as a means of improving economic welfare, domestically and abroad. However, there are strong public concerns that freer trade ("globalization") will have high costs in terms of environmental degradation and threats to human health, especially in developing countries that lack environmental protection institutions. The U.S. is currently involved in trade negotiations at the World Trade Organization (WTO) and with the Free Trade Area of the Americas (FTAA), has just completed negotiations with Chile and Singapore, and has begun work on trade agreements with Central America, Morocco, and the Southern Africa Customs Union. Congress, in recognition of the growing awareness of the link between trade and the environment, enacted in Trade Promotion Authority (TPA) explicit priorities and objectives for environmental issues, such as environmental reviews and capacity building, and provisions against lowering environmental standards to attract investment.

During FY 2002, EPA worked in an interagency process to harmonize environment and trade. As a result, two agreements that reached conclusion in early FY 2003 contain environmental text and include processes for establishing cooperative projects that encourage harmonization of environment and trade. These cooperative projects are aimed at improving the environment worldwide through communicating environmental best practices and reducing the potential for global and trans-boundary pollution.

Throughout FY 2003 and 2004, EPA will be heavily involved in developing and completing these projects. In FY 2003, the United States will initiate at least three new free trade agreement negotiations, and continue work on the WTO and FTAA. In each case, EPA will promote the harmonization of environment and trade, working with partner countries to develop cooperative projects that will assist them in maintaining or improving their environmental conditions. This work will continue into FY 2004, when the majority of the work on cooperative projects will take place, and negotiations for other free trade agreements may begin. An additional goal in FY 2004 is to ensure that the Environment and Trade program will fill an important data gap by quantifying environmental impacts of potential trade agreements, allowing us to better measure the results of our work.

Commission for Environmental Cooperation

The Commission for Environmental Cooperation (CEC) was established in 1993 under the North American Agreement on Environmental Cooperation (NAAEC), a supplemental agreement to the North American Free Trade Agreement (NAFTA). The CEC consists of a Council, a Secretariat, and a Joint Public Advisory Committee. Executive Order 12915 designates the EPA Administrator as the United States representative on the Council and gives EPA lead responsibility for the U.S. Government regarding the CEC.

During FY 2004, EPA will continue to lead U.S. efforts in the implementation of the NAAEC and the CEC program plan by coordinating U.S. involvement in programs related to the NAAEC, including oversight of programs in the categories of Trade and Environment, Law and Policy, Pollutants and Health, and Biodiversity, while promoting transparency and public participation in all of CEC's work. EPA will also participate in meetings of the Joint Public Advisory Committee, and coordinate meetings with the U.S. National and Governmental Advisory Committees for the CEC.

EPA will also provide oversight, guidance, and technical support for a number of substantive CEC projects in FY 2004. For example, in the area of biodiversity, EPA will participate in the development and implementation of a strategic plan for biodiversity conservation, including the strategic development of a network of marine protected areas in North America. In the area of children's health and the environment, EPA will also provide technical support and oversight for efforts by CEC and partners to develop a report of indicators dealing with children's health and the environment in North America. EPA will continue to provide information and technical support for the annual Taking Stock publication, which CEC publishes to measure pollutant releases across North America. EPA will also participate in a process for developing a strategic plan for the CEC's work, including program evaluation, and will lead U.S. efforts in developing and approving a 10-year retrospective of the environmental impacts of NAFTA, including the NAAEC.

EPA will also continue to participate and provide technical guidance to the Sound Management Of Chemicals (SMOC) workgroup, including taskforces on mercury, dioxins, furans, hexachlorobenzene and lindane. In FY 2004, efforts will continue to build capacity to deal with chemical management issues in all three countries, focusing on Mexico and support for its National Implementation Plan on POPs as well as continuing efforts related to sustainable alternatives to DDT for malarial vector control. Work on the new Monitoring and Assessment Taskforce will continue to assess the short, medium, and long-term goals for action plans dealing with chemicals in air, water, and the environment.

International Safe Drinking Water

In FY 2004, the international safe drinking water initiative will continue its focus on applying cleaner and more cost-effective environmental practices and technologies in order to improve drinking water quality in partner countries. Ongoing projects in Central America and Africa will be used as models to continue promoting water quality improvement throughout these regions, with expansion into Asia, particularly India. With the number of medium-sized cities (100,000 to 1 million inhabitants) and large cities (greater than 1 million inhabitants) expected to rise dramatically over the next 20 years, these projects will help alleviate the enormous stress on an already compromised water and wastewater infrastructure in urban and peri-urban areas.

In Latin America, EPA will work with partners such as the Pan American Health Organization's technical center – CEPIS – to strengthen their abilities to improve water quality in the region. EPA implemented several drinking water projects in Africa during FY 2002, with projects focused on nations in the southern and eastern parts of the continent. In cooperation with other Federal agencies and departments, EPA will expand these urban/peri-urban drinking water programs during 2004. Raising awareness of the cost-effectiveness of protecting safe water resources (versus treatment of contaminated sources) will be an important component of each project. EPA will work with in-country partners to emphasize the health impacts and societal costs, such as infant mortality or lost work force productivity, which can result from unsafe drinking water. EPA will also consider environmental finance options, based on the Agency's Revolving Loan Fund programs, for small-scale infrastructure improvements in urban communities.

In cooperation with the USAID Mission, EPA will work to improve drinking water laboratory capacity and treatment plant effectiveness and to address water quality issues in urban areas as part of ongoing bilateral activities.

All of EPA's international safe drinking water work complements the Agency's children's health programs, which help to reduce exposure to contaminated drinking water among a particularly sensitive population.

Legal and Regulatory Capacity Building

In FY 2004, EPA will continue legal and regulatory capacity-building activities in Asia and Central America. In Asia, EPA will continue to work in cooperation with USAID to

implement new environmental laws and regulations or significantly revise existing laws and regulations. Through in-country assistance to EPA counterpart organizations, EPA will assist in developing and implementing improved laws and regulations. Projects in support of this effort will likely focus on transferring U.S. experience in the development of sound regulatory regimes and associated policies on permitting and penalty assessment. EPA will also work to increase public participation in the promulgation of environmental regulations, as public participation can encourage greater transparency in enforcement and reporting. EPA will also work with key partners to develop public awareness campaigns which facilitate the implementation of new regulations.

As part of another ongoing cooperative effort with USAID, the Agency will also work to improve the regulatory framework in Central America. EPA will assist Central American countries in developing regionally-comparable environmental standards, improving their application and enforcement of environmental regulations, and increasing their ability to comply with international environmental agreements. Work under this regional program will focus largely on pesticide management, wastewater management systems, and municipal waste management. FY 2004 will mark the third year in this six-year effort.

FY 2004 Change from FY 2003 Request

EPM

- (-\$482,900, 5.8 FTE) redirection of resources to give greater emphasis to new environmental plan for the Mexico Border (Goal 6 Objective 1) and capacity efforts for implementation of the Stockholm Convention on Persistent Organic Pollutants. The redirection will reduce the level of effort directed towards strengthening environmental management to countries in transition and developing countries.
- (+\$109,700, 0.4 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*
- There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: REDUCTION OF GLOBAL AND CROSS-BORDER ENVIRONMENTAL RISKS

OBJECTIVE: INCREASE DOMESTIC AND INTERNATIONAL USE OF CLEANER AND MORE COST-EFFECTIVE TECHNOLOGIES.

Annual Performance Goals and Measures

Enhance Institutional Capabilities

- In 2004 Enhance environmental management and institutional capabilities in priority countries.
- In 2005 Enhance environmental management and institutional capabilities in priority countries.
- In 2007 All aspects of this Annual goal were met doing mid-year. Our efforts over the year lead to 2 countries committing to the phase-out of leaded-gasoline. Targeted countries in the Caribbean and in Asian completing the 1st phases of their commitments to the POPs conventions with PCB inventories.

Performance Measures:	FY 2002 Actual	FY 2005 Pres. Bud.	FY 2004 Request	
Assist in the development or implementation of improved environmental laws or regulations in priority countries.		1	1	countries
Increase the transfer of environmental best practices among the U.S. and its partner countries and build the capacity of developing countries to collect, analyze, or disseminate environmental data		3	3	countries
Increase the capacity of programs in Africa or Latin America to address safe drinking water quality issues.		1		countries

Baseline: Sound data collection and analysis facilitates improved environmental legislation, enforcement and planning. EPA is helping to build capacity to collect, analyze and disseminate environmental data for use in priority developing countries to more effectively target resources for environmental protection.

Verification and Validation of Performance Measures

Validating measurements under international capacity-building programs presents several challenges. Technical assistance projects, for instance, typically target developing countries, which often do not have sound data collection and analysis systems in place. Several of the Agency's activities under Goal 6, Objective 5 attempt to improve this data gathering and analysis process. Non-technical projects, such as assistance in regulatory reform, frequently must rely on more subjective measures of change, such as the opinions of project staff or reviews by third-party organizations, including other U.S. government organizations, in judging the long-term efficacy of the assistance provided. Data verification and validation for each of the key measures under Objective 5 are discussed below.

FY 2004 External Performance Measure: Assist in the development or implementation of improved environmental laws or regulations in developing countries.

Performance Database: None. Output measure. Manual collection of information to track measure.

Data Source: Project Specific

QA/QC Procedures: Verification does not involve any pollutant database analysis, but will require objective assessment of: (1) tasks completed, (2) compliance with new regulation, and (3) progress toward project goals and objectives.

EPA works with developing countries to improve environmental laws and regulations. Tracking development and implementation of legislation presents few challenges because EPA project staff maintain close contact with their counterparts and any changes become part of a public record. Assessing the quality of the new or revised laws/regulations, the level of public participation and support for stronger regulations, and the long-term social impacts of legislation is more subjective. Aside from feedback from Agency project staff, EPA relies, in part, on feedback from its counterparts in the target countries and regions and from nongovernmental organizations (NGOs) and other third parties in gauging the efficacy its international legal and regulatory capacity-building. Because EPA works to establish long-term relationships with priority countries, the Agency is often able to assess environmental improvement in these countries and regions for a number of years following legal assistance efforts.

FY 2004 External Performance Measure: Through the CEC, develop a core set of children's environmental health indicators and economic valuation report of children's environmental health by September 2004.

Performance Database: None. Output measure. Manual collection of information to track measure.

Data Source: Project Specific

QA/QC Procedures: Verification does not involve any pollutant database analysis, but will require objective assessment of tasks completed and consensus by the Commission for Environmental Cooperation's (CEC) children's environmental health trilateral team.

Coordination with Other Agencies

EPA's environmental mandate and expertise make it uniquely qualified to represent the nation's environmental interests abroad. While the Department of State (DOS) is responsible for the conduct of overall U.S. foreign policy, implementation of particular programs, projects, and agreements is often the responsibility of other agencies with specific technical expertise and resources. Relations between EPA and DOS cut across several offices and/or bureaus in both organizations. Similarly, EPA and the many components of the Department of Commerce work together closely on a range of different issues, including many science and technology issues. For example, EPA is responsible for implementing activities under the Export Enhancement Act of 1992. The Act mandated EPA participation on the Environmental Trade Working Group of the Trade Promotion Coordinating Committee, an interagency working group chaired by the Secretary of Commerce to coordinate the government's overall environmental trade promotion activities.

EPA also serves as the primary point-of-contact and liaison with the U.S. Agency for International Development (USAID). Specially drawing on expertise from throughout EPA, the Agency administers a number of interagency agreements for environmental assistance.

EPA works extensively with the Office of the U.S. Trade Representative (USTR), particularly its Office of Environmental and Natural Resources, to ensure that U.S. trade and environmental policies are mutually supportive. For example, through the Agency's participation in the negotiation of both the North American Free Trade Agreement and the World Trade Organization Agreements, EPA has worked with USTR to ensure that U.S. obligations under international trade agreements do not hamper the ability of Federal and state governments to maintain high levels of domestic environmental protection. The two agencies also work together to ensure that EPA's rules, regulations and programs are consistent with U.S. obligations under international trade agreements.

Finally, EPA works closely with a number of other Federal agencies with environmental, health, or safety mandates. These include (among others) the Department of Labor, Department of Transportation, Department of Agriculture, Department of the Interior, Department of Health and Human Services, and the Food and Drug Administration.

Statutory Authorities

EPCRA section 313 (42 U.S.C. 11023)

PPA (42 U.S.C. 13101-13109)

World Trade Organization Agreements

North American Free Trade Agreement

North American Agreement on Environmental Cooperation

US-Canada Agreements

The Boundary Waters Treaty of 1909

1987 Great Lakes Water Quality Agreement

1997 Canada-U.S. Great Lakes Bi-national Toxics Strategy

Goal 7: Environmental Information

Environmental Protection Agency
2004 Annual Performance Plan and Congressional Justification
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Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Quality Environmental Information

Strategic Goal: The public and decision makers at all levels will have access to information about environmental conditions and human health to help assess the general environmental health of communities. The public will also have access to educational services and information services and tools that provide for the reliable and secure exchange of quality environmental information.

Resource Summary (Dollars in thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Quality Environmental Information	\$202,315.0	\$199,040.4	\$228,322.1	\$29,281.7
Increase Availability of Quality Health and Environmental Information.	\$125,899.5	\$120,331.1	\$118,203.3	(\$2,127.8)
Provide Access to Tools for Using Environmental Information.	\$49,493.9	\$48,181.3	\$47,071.0	(\$1,110.3)
Improve Agency Information Infrastructure and Security.	\$26,921.6	\$30,528.0	\$63,047.8	\$32,519.8
Total Workyears	846.1	847.1	840.0	-7.1

Background and Context

Accurate, timely, and comprehensive information should be the foundation for virtually every action taken by EPA, states, and others charged with the responsibility to ensure a safer, healthier world for the generations that follow. EPA's obligation to work with other Federal, state, and local allies on homeland security issues is another dimension of EPA's information management activities.

Our response to these challenges, built on the foundation provided by the President's Management Agenda (PMA), requires us to look for new ways to foster existing Agency practices that support this direction. The FY 2004 budget proposals described in this goal represent a major new investment by the Agency to:

- better integrate the information EPA collects to ensure the Agency is better able to set priorities, make sound decisions, manage for results, and measure performance;

- adopt an enterprise-wide approach to managing information, including administrative and programmatic systems, investment priorities, and resource allocation; and,
- work collaboratively with states and other Federal agencies to transform and streamline business practices, develop common and consistent standards and systems, share data, and adopt a citizen-centric approach to information services.

No less important is the need to ensure that environmental information is accessible and usable by the American public – including those who have been historically disenfranchised. Information-and the public's ability to acquire, use, and understand it will increasingly become an important tool for addressing environmental problems and challenges.

Means and Strategy

Strategy: Information as a Strategic Resource

The context for EPA's information management efforts is the explosion of emerging technologies, such as e-commerce and web services, that enable organizations to become extremely productive, effective, and proactive in service delivery. EPA and as well as other organizations face a similar underlying challenge: how to get the right data and tools to the right person to ensure quality environmental decisions.

The Agency's broad strategy is to transform its information management activities from the provision of information technology (IT) services (i.e., back room operations focused primarily on component parts of the Agency) to managing information as an enterprise-wide strategic resource.

Means: Building the Best Information Capability at the Least Cost

During FY 2004, EPA will pursue three objectives based upon this strategy: to increase the availability of quality, useful health, and environmental information; to provide access to new analytical tools to improve the ease of interpretation and the accuracy of information; and, to improve the Agency's information infrastructure and security.

Enterprise Thinking

To successfully manage IT, EPA must carefully align technology, people, and processes with goals. Identifying the business processes developed to support goals, and the data, the systems, and technology needed is called enterprise architecture. Enterprise architecture drives our investment decisions and ensures that we select the Agency's investments wisely.

EPA's Chief Information Officer (CIO) will continue to pursue an investment strategy to support a strong Agency architecture program and investment management process as outlined by the Federal CIO Council and required by the Clinger-Cohen Act. An enterprise-wide approach to information will allow EPA to make key information, technology, and funding decisions at an Agency-wide level and improve the efficiency and effectiveness of the

governance structure and operations. Funding for individual systems development and modernization efforts will remain in individual National Program Manager accounts, but will be governed by the architecture and investment review processes. There are three key points regarding what the Agency builds and how it pays for it.

First, EPA is no different from other Federal agencies that require upgrades and continued maintenance of its IT infrastructure. EPA is proposing a major investment in this area and proposing that these costs, which are predictable and necessary, be considered as basic to the Agency budget as is the funding for its buildings. It is the cost of doing business in the information age.

Second, the Agency's costs of electronic access to EPA information through its web site, epa.gov, continue to rise as the number of access "hits" increase, as more applications, data processing, and mapping tools become available, and as many of the e-Government (e-Gov) transactions are carried out via the central Agency internet site. Through epa.gov, EPA has developed an increasingly popular mechanism for one-stop access that has ongoing operations and maintenance costs. The Agency recognizes the importance of this mechanism for conducting business with the public and must face its associated cost.

Finally, EPA is aligning IT capabilities with the e-Gov strategy developed as part of the President's Management Agenda (PMA). While the Agency works with states, tribes, and local partners in our day to day environmental business, EPA must likewise commit to the economies and efficiencies that can be derived from collaborating with other Federal agencies. These economies and efficiencies will not only improve the quality of services but will also drive down the cost of basic government functions. The PMA's e-Gov efforts seek to simplify processes and unify operations to better serve citizens' needs. EPA will continue its efforts to implement this vision, and eliminate redundancies and overlaps in such activities as small business compliance, payroll, and other enterprise-wide resource functions, on-line rule making, and geospatial information. Overall, EPA is actively participating in 14 designated e-Gov projects and in all four sectors of the PMA (government to citizen, government to government, government to business, and internal efficiencies).

The National Information Exchange Network

EPA has learned from efforts under the Government Performance and Results Act (GPRA) as well as the draft State of the Environment Report (SOE) - EPA's first national indicator project - that far more data is needed than is currently collected. The latest estimates for the SOE report indicate that at least 40% of the data EPA needs to better measure true environmental outcomes is either missing or unavailable. Some of the data gaps identified can be filled by other Federal agencies and state and local governments.

Based on a five year partnership between leading states and EPA, the Agency is creating an internet-based National Environmental Information Exchange Network (Exchange Network). With the Exchange Network in place, people can quickly and easily share information and EPA will be able to take advantage of the wealth of environmental and health data collected by other

Federal agencies, states, and local governments. Others have done this, though most examples are in the private sector with decentralized operations. The Department of Justice and the Federal Bureau of Investigation have made the most progress, working for the past five years with state and local parties on just such a model.

A number of our state and tribal partners are currently designing their capacity to participate in the Exchange Network. At least 35 states are building integrated, multimedia, geographic-based systems using facility information as the core of the system; and over 40 states and 10 tribes applied in FY 2002 for EPA's \$25.0 million Exchange Network grants. These grants foster technical readiness to share information over the national network.

Building Capacity and Creating Centers of Excellence in Regions

The future of partnership-based information management and a variety of joint planning and innovations efforts depend on working with our state and tribal partners identifying problems and crafting joint solutions. Clearly, an ability to access, analyze, interpret, and respond to data is a core capability necessary to acquire. The EPA regions, and related non-Headquarters sites, have the most critical operational interfaces with external partners. They also are the point of entry for information access by on-scene coordinators and first responders. Currently, inadequate basic IT infrastructure at the regional level impedes consistent, effective access. Implementing the upgrades to deliver reliable, effective capacity to support Agency and external partner information access nationally is a long-term challenge.

Through a combination of a new Agency base investment, one that will continue in the outyears, and a targeted investment of \$10,000,000 in order to address highest priority regional problem areas, EPA proposes to address the information access infrastructure problem in a strategic manner in FY 2004. This will close the major infrastructure gaps at the most vulnerable locations, build a stable foundation for state and tribal partnerships and e-Gov work, and enable subsequent annual network upgrades and maintenance at base levels in the outyears.

Performance Measurement

The enterprise-wide approach to information management supported by this budget proposal is the underpinning of EPA's ability to accurately measure the environmental outcomes of the Agency's programs. The Agency fully supports the performance measurement focus of the PMA and is developing its first national environmental indicators report, entitled the SOE report, and is establishing a comprehensive set of environmental indicators. The Agency is also working to improve the performance measures associated with information management efforts. To the degree that these efforts support other programmatic activities, the performance measures are more likely to be indirect. EPA is working on outcome measures associated with information access programs that provide information to the public as a means for accomplishing environmental goals.

Research

Research efforts supporting this goal include the Integrated Risk Information System (IRIS). IRIS is an EPA database of Agency consensus health information on environmental contaminants, used extensively by EPA, other federal agencies, states, and the public to access toxicity information that may be needed for performing risk assessments. In FY 2004, EPA will continue the modernization and expansion of IRIS, which began in 2002, including dedicating additional staff to the program. Another effort to support Goal 7 is the Risk Assessment Forum (RAF), which promotes Agency-wide consensus on difficult and controversial risk assessment issues and ensures that this consensus is incorporated into appropriate Agency risk assessment guidance.

Several mechanisms are in place to ensure a high-quality research program at EPA. The Research Strategies Advisory Committee (RSAC) of EPA's Science Advisory Board (SAB), an independent chartered Federal Advisory Committee Act (FACA) committee, meets annually to conduct an in-depth review and analysis of EPA's Science and Technology account. The RSAC provides its findings to the House Science Committee and sends a written report on the findings to EPA's Administrator after every annual review. Moreover, EPA's Board of Scientific Counselors (BOSC) provides counsel to the Assistant Administrator for the Office of Research and Development (ORD) on the operation of ORD's research program. EPA's scientific and technical work products must undergo either internal or external peer review, with major or significant products requiring external peer review. The Agency's Peer Review Handbook (2nd Edition) codifies procedures and guidance for conducting peer review.

Strategic Objectives

- Increase Availability of Quality Health and Environmental Information
- Provide Access to Tools for Using Environmental Information
- Improve Agency Information Infrastructure and Security

Highlights

EPA will continue to work with the other Federal agencies, states, tribes, and others to strengthen its information quality, leverage information maintained by other government organizations, and develop new tools that provide decision-makers and citizens with simultaneous access to multiple data sets and information products. These improvements will support better-informed environmental decision-making and management based on environmental results. They will also enable citizens to get answers to the questions they have about what EPA is doing to protect the environment and the quality of their communities. Stakeholders will have "one-stop" access to the regulatory and policy implementation guidance that they need to improve the performance of their facilities and sectors. Facility operators will be able to submit their data to states, regions, and Federal systems simultaneously via the internet without having to fill out paper forms; an improvement which will help EPA to meet the burden reduction goals of the National Paperwork Reduction Act and the Government Paperwork Elimination Act.

Effectively managing the process by which the public is educated and informed regarding the Agency's resources is pivotal to accomplishing the mission of the Agency. To this end, the Agency will expand its two-way communications with the public. EPA, through its public and Congressional liaison functions, Federal Advisory Committee Act functions, media relations, print and web content review, and oversight responsibilities, will inform and educate the public about Agency initiatives, policies, regulations, services, and environmental information resources. The Agency will also develop and monitor feedback mechanisms to learn from them. In order to accomplish this goal, EPA and its partners will focus on the following.

EPA is currently an active participant in 14 of the 24 e-Gov projects included in the PMA. This effort seeks to eliminate redundant activities across agencies and achieve a more seamless, citizen-centered provision of services. The resources requested in FY 2004 will enable EPA to improve the way in which we engage citizens and the regulated community. The Agency expects to use e-tools to: lessen paperwork burden; improve how the Agency works with local, state, and Federal partners; provide easier, smarter, and faster means for citizen's to obtain environmental information and services; and, ultimately to ensure that better environmental decision that will enhance national ability to protect human health and the environment. EPA is currently involved in the following e-Gov projects: e-Authentication; Disaster Management; e-Grants; e-Records; e-Training; e-Travel; Enterprise Human Resources; Geospatial One-Stop; Integrated Acquisition; On-Line Rulemaking; One-Stop Business Compliance; One-Stop Recruitment; Payroll; and Safecom Wireless Communications.

EPA will continue to increase the availability of useful health and environmental information internally and to the public by providing better access to accurate and reliable environmental information. For instance, with the final expansion of *Window to My Environment* - a geographic portal to community-based environmental information - EPA is moving forward to provide the public with electronic and non-electronic access to accurate, useful, and reliable environmental data. This data source will include information collected by EPA, its partners, and stakeholders.

EPA will continue to develop the National Environmental Information Exchange Network. The Exchange Network is a comprehensive, integrated information exchange program designed to strengthen the partnership between and facilitate information sharing among EPA, the states, other Federal agencies, tribes, localities, and the regulated community. The Exchange Network will provide a wide range of shared environmental information and improve environmental decision making through increased availability of data, better data quality and accuracy, security of sensitive data, avoidance of data redundancy, and reduced burden on those who provide and those who access information. It uses an internet-based, multi-media approach to environmental information exchange that is standards-based, highly connected, flexible, and secure. Additionally, through an information grant program begun in FY 2002, states and tribes will be better positioned to participate in the Exchange Network.

The Central Data Exchange (CDX) is the electronic portal through which information is securely received, translated, and forwarded to EPA's data systems. In FY 2004 the CDX infrastructure, a key component of the Exchange Network, will service 46 states and a total of over 25,000 facilities, companies and laboratories will use it to provide data to EPA

electronically. By widely implementing an electronic reporting infrastructure, CDX will reduce reliance on less efficient paper-based processes, resulting in improved data quality, reduced reporting burden, and the creation of new opportunities for simplifying the reporting process. By the end of FY 2004, electronic reporting through CDX will be possible for all of the national environmental systems.

EPA will develop and implement program policies and guidance in several areas including web content, website management, privacy, and quality system. The Agency will solicit customer feedback to systematically improve information usability, clarity, accuracy, reliability, and scientific soundness. Other efforts to improve information will include the development and, in particular, the implementation of necessary data standards and associated registries to improve the consistency, quality, and comparability of data managed in national environmental systems. EPA will ensure that data quality is known to and appropriate for intended uses. Usability testing and customer satisfaction baselines will assure that the information the Agency provides is meeting the needs of its customers. In addition, the Agency is committed to developing analytical and other tools to help users interpret and apply environmental data.

EPA will provide the means for using and understanding environmental information. Environmental data are most meaningful when examined from a holistic perspective; that is, when users are able to examine multi-media data about a particular location or source at once. Users must also have the underlying documentation that describes the limitations of the data and the context in which it is most useful. In FY 2004 the Agency will continue the development of its Environmental Indicators Initiative in order to establish a set of performance indicators that measure environmental results. Environmental indicators are an important tool for analyzing, and communicating information about environmental conditions and human health to the public in an understandable manner.

EPA will streamline information collection. Streamlining will help regulated entities to meet their regulatory requirements while eventually easing burdens placed on states and the Agency to collect information. The Agency will examine the information reporting burdens placed on its partners and on the regulated community and ensure that information collections address specific needs. EPA will improve the timeliness and completeness of requests for information by implementing an Agency-wide electronic records and document management system. The Agency plans to develop and acquire the necessary software and hardware to begin phased implementation of the system throughout the Agency.

EPA will play an integral role in supporting homeland security. Accurate information about EPA-regulated facilities and areas of environmental interest is critical to EPA's ability to support homeland security efforts. The ability to identify and report on regulated facilities, their location and spatial coordinates, their materials, and their corporate ownership is an important piece of the homeland security picture. Part of the Agency's homeland security role is to deliver secure, reliable, and timely data access and communications to on-scene coordinators, emergency response teams, and investigators in the field.

EPA will strengthen and increase the security of its information infrastructure. This is fundamental to increasing the availability, usability, and reliability of environmental information. EPA must maintain a strong and secure information infrastructure that supports Agency mission and homeland security requirements with adequate capacity, resulting in the right technology at the right time, with rigorous cyber-security protection. In FY 2004, the Agency will upgrade its IT and cyber-security infrastructure to address gaps. The upgrades will deliver Agency-wide enhancements based on the priorities identified in the enterprise architecture, which identifies best technology options to support program strategic directions, and directs capital planning to achieve cost-effective Agency-wide IT solutions that are sustainable across the multi-year cycles typical of major technology projects and investments.

Priorities for FY 2004 include: network capacity upgrades to enable reliable information access for the Agency, its partners, and the public; and cyber-security and technology enhancements to support secure access to EPA data. Network upgrades will be managed under the Agency's working capital fund desktop service, with appropriated funds allocated to programs to pay their proportional share of the desktop charge.

EPA's IT program will maintain its commitment to strong customer service and strategic investment in new technology to ensure EPA's continued ability to deliver information services efficiently, effectively, and securely. Through emphasis on acquiring the right skills, technologies, and services, EPA will take additional steps to strengthen and secure the Agency's IT infrastructure. In FY 2004, EPA will implement a program to ensure that all of its central infrastructure, financial, and mission critical environmental systems are assessed for potential security risks as part of regular system security plan updating.

EPA will improve its System of Registries. By FY 2004, data standards will be expanded to include additional areas of environmental information. Access to related information for use by EPA's partners and stakeholders will be greatly enhanced by improvements to EPA's System of Registries. The Agency's expanding system of registries will continue to provide the technical detail needed to promote the adoption of data standards by other parties, and will also provide authoritative sources for populating records, thereby promoting data sharing and integration.

EPA will assemble core environmental program data, geospatial resources, meta data, Facility Registry, Environmental Data Registries, and other systems of data registries into one integrated Enterprise Repository that is accessible to all. The Repository will help move EPA beyond the current limitations of the "stove-pipe" approach to information management and support more effective data-sharing, integration, and accessibility to information for environmental management and homeland security decision makers. In FY 2004, EPA will establish a comprehensive and secure "System of Access" to EPA's data resources that will allow users to easily locate relevant data from internal and external sources and access the tools needed to analyze it based on their own individual level of authorization.

EPA will continue its error correction efforts. Users of EPA's website have a tool for notifying the Agency of potential errors they find in the national environmental data systems. The Integrated Error Correction Process is a procedure by which the Agency or a state will

assess all reported potential errors, and notify the individual who reported the error of the findings and corrective actions. This program, which is already serving as the basis for the data and information quality "complaint resolution process" called for in the Agency's Information Quality Guidelines, will continue to operate in FY 2004.

As part of the government-wide e-Rule making initiative, EPA will continue to enhance the Agency's internal rule making system and public participation in the rule making process. As of May 2002, citizens and the regulated community have greater online access to information contained in EPA's rule-making and non-rule making dockets. EPA Dockets (EDOCKET) is an online complement to EPA's combined docket facility. The system allows the public to search available and historic dockets at any time, view docket contents, print and download materials, and provide comments on EPA's rule-making and non-rule making activities. By FY 2004, nearly all of the Agency's dockets will be contained in EDOCKET. The combined docket facility and EDOCKET represent a substantial financial savings over our previous approach.

In partnership with the states, the Agency will continue its efforts to expand publicly available information, both electronically via the Internet and through non-electronic media. This includes the Envirofacts database, a major data warehouse comprised of 11 national databases. It is used extensively by EPA, the states, and the public.

The Agency will continue its efforts to promote public access through the Agency's Access to Interpretive Documents project (formally known as Enhanced Public Access). This project is designed to make all significant Agency guidance, policy statements, and site specific interpretations of regulated entities' environmental management practices electronically available to the states, industry, and the public in a secure manner.

EPA will continue to implement the Toxics Release Inventory (TRI) Program. The TRI Program provides the public with information on waste management and releases of chemicals to the environment. Two laws, Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) and Section 6607 of the Pollution Prevention Act, mandate that EPA annually collect information on releases of listed toxic chemicals from certain industries and make this information available to the public through various means, including a publicly accessible national database. Using this information, citizens, businesses, community groups, researchers, and governments can work together to address releases in their communities.

EPA will continue to reduce TRI reporting burdens on industry and improve TRI data quality by distributing its new software tool, "TRI Made-Easy (TRI-ME)." The Agency expects to further increase the percentage of TRI reporting forms that are submitted in digital format. EPA will continue to refine and expand the public's understanding of TRI data by improving data access tools such as the "TRI Explorer." In FY 2003, EPA will release data for the first reporting year since the Agency lowered the TRI reporting thresholds for lead and lead compounds in FY 2001. As part of its on-going responsibilities under EPCRA, EPA will continue to respond to petitions to add and delete chemicals on the TRI list and to other petitions to amend the program.

EPA's quality program will continue to develop the Agency-wide policies and procedures for planning, documenting, implementing, and assessing data collection and use in Agency decisions. The quality program will also develop training material on the various policies and oversee implementation of EPA's quality systems. EPA will also continue to implement its Data Quality Guidelines.

By focusing on these areas, EPA will keep pace with the rapid advances in IT and meet the growing demand for reliable, high quality environmental information.

Research

In FY 2004, the Agency will continue to provide technical guidance for conducting risk assessments to improve the scientific basis for decision-making within IRIS and RAF. The Agency's Risk Assessment Forum will focus on three areas: cumulative risk assessment, ecological risk assessment, and risk assessments specific to children. Efforts will result in guidance on preparing cumulative risk assessments, technical issue papers, and guidance on the identification of appropriate age groupings for exposure assessments for children.

External Factors

EPA's information comes from many sources, including states, tribes, local governments, research, and industry. Working in partnership with state and tribal governments is an essential element of EPA's information programs. Seeking advice and input from the regulated community and the public will ground EPA's information programs and approaches and make them more responsive to stakeholders' needs. In order to achieve an integrated information network that increases efficiency and fosters information sharing, the Agency must work with those who provide and use EPA's information to ensure that data are maintained effectively, and protected appropriately.

Rapidly changing technology presents opportunities to address mission needs in better ways, as well as challenges where legacy technology must be replaced. The Agency must manage how it adopts new technology from an Agency-wide perspective to gain benefits, minimize risk, and demonstrate incremental, earned-value results. The Agency is also outsourcing major technology operations under performance-based contracts to achieve greater returns and obtain more flexibility in responding to requirements for technology change; whether driven by program needs or technology advances.

The evolving user community will also affect the success of the Agency's information efforts. As more states and tribes develop the ability to integrate their environmental information, the Agency must adjust its systems to receive and process reports from states and industry in keeping with the Agency's statutory requirements. Local citizen organizations and the public at large are also increasingly involved in environmental decision-making, and their need for information and more sophisticated analytical tools is growing.

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Quality Environmental Information

Objective: Increase Availability of Quality Health and Environmental Information.

Through 2006, EPA will continue to increase the availability of quality health and environmental information through educational services, partnerships, and other methods designed to meet EPA's major data needs, make data sets more compatible, make reporting and exchange methods more efficient, and foster informed decision making.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Increase Availability of Quality Health and Environmental Information.	\$125,899.5	\$120,331.1	\$118,203.3	(\$2,127.8)
Environmental Program & Management	\$98,163.8	\$93,666.1	\$92,638.7	(\$1,027.4)
Hazardous Substance Superfund	\$1,947.6	\$1,665.0	\$564.6	(\$1,100.4)
Science & Technology	\$866.3	\$0.0	\$0.0	\$0.0
State and Tribal Assistance Grants	\$24,921.8	\$25,000.0	\$25,000.0	\$0.0
Total Workyears	496.4	492.1	478.7	-13.4

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Community Assistance	\$650.2	\$921.8	\$0.0	(\$921.8)
Congressional Projects	\$2,078.6	\$1,991.3	\$2,145.2	\$153.9
Congressional/Legislative Analysis	\$4,852.2	\$4,857.8	\$4,958.1	\$100.3
Congressionally Mandated	\$1,100.0	\$0.0	\$0.0	\$0.0

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Projects				
Correspondence Coordination	\$1,200.7	\$1,096.3	\$1,127.7	\$31.4
Data Collection	\$0.0	\$0.0	\$2,854.0	\$2,854.0
Data Management	\$2,400.7	\$2,630.1	\$0.0	(\$2,630.1)
Data Standards	\$500.0	\$2,785.4	\$12,169.6	\$9,384.2
Direct Public Information and Assistance	\$8,612.7	\$8,992.6	\$9,475.8	\$483.2
Environmental Education Division	\$9,160.2	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and Operations	\$7,002.0	\$7,031.5	\$7,205.6	\$174.1
Geospatial	\$154.8	\$464.0	\$0.0	(\$464.0)
Homeland Security-Communication and Information	\$600.8	\$476.7	\$0.0	(476.7)
Information Exchange Network	\$25,000.0	\$25,000.0	\$25,000.0	\$0.0
Information Integration	\$4,675.8	\$9,728.5	\$0.0	(\$9,728.5)
Information Technology Management	\$3,872.9	\$3,000.0	\$10,864.9	\$7,864.9
Intergovernmental Relations - OA	\$1,519.8	\$1,835.4	\$2,871.2	\$1,035.8
Legal Services	\$1,979.1	\$2,082.7	\$2,173.0	\$90.3
Management Services and Stewardship	\$1,410.8	\$1,314.9	\$1,797.2	\$482.3
Multi-Media Communications	\$821.3	\$872.7	\$919.4	\$46.7
NACEPT Support	\$1,803.1	\$1,670.1	\$1,692.1	\$22.0
NAFTA Implementation	\$514.3	\$747.9	\$758.5	\$10.6
National Association Liaison	\$346.0	\$262.5	\$267.9	\$5.4
Pesticide Registration	\$570.6	\$221.4	\$0.0	(\$221.4)
Pesticide Reregistration	\$392.2	\$198.1	\$0.0	(\$198.1)
Planning and Resource Management	\$0.0	\$0.0	\$348.6	\$348.6
Public Access	\$4,857.5	\$5,165.2	\$6,118.2	\$953.0
Regional Management	\$1,262.2	\$1,267.8	\$1,400.0	\$132.2
Regional Operations and Liaison	\$547.5	\$477.6	\$487.5	\$9.9
Regulatory Development	\$5,000.5	\$4,817.4	\$5,043.4	\$226.0
Reinventing Environmental	\$5,066.8	\$4,279.1	\$0.0	(\$4,279.1)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Information (REI)				
SBREFA	\$686.2	\$608.8	\$616.2	\$7.4
Small, Minority, Women-Owned Business Assistance	\$2,295.5	\$3,305.0	\$3,407.3	\$102.3
System Modernization	\$6,827.7	\$7,254.6	\$0.0	(\$7,254.6)
Toxic Release Inventory / Right- to-Know (RtK)	\$13,278.0	\$14,206.9	\$11,976.0	(\$2,230.9)
Web Products Quality Control	\$879.5	\$767.0	\$812.4	\$45.4

FY 2004 Request

In FY 2004, EPA will continue to manage and support its website - EPA.Gov - to ensure public access to a broad range of resources, applications, maps, tools, and databases. The EPA.Gov website has grown exponentially in the last five years, with web site hits rising from monthly averages of 9.7 million in 1997 to 136.0 million in the Spring of 2002. The Agency will continue to expand the capabilities of the Envirofacts database to provide comprehensive environmental information to Federal agencies, environmental interest groups, the regulated community, state and local communities, tribal governments, and the general public.

EPA will actively participate in several of the Administration's electronic government (e-gov) initiatives, building on efforts started in FY 2002. E-gov is a major component of the President's Management Agenda (PMA) and will spur government-wide service improvements and efficiencies. Some of the initiatives EPA will work on in FY 2004 include:

- *Online rule-making or e-rulemaking*, which will create a centralized docket system for all Federal agencies and will allow the public to access and search all publicly available regulatory material;
- *Electronic records management*, a project that will effectively manage and facilitate access to Agency information in order to support and accelerate decision-making, ensure accountability, and provide the tools that agencies will need to manage their records in electronic form;
- *Geospatial one-stop*, a program that will coordinate and enhance the use of geospatial information, tools, and technologies so that the Agency, regions, and industry can better make decisions about protecting and improving the environment and public health; and
- *e-Authentication*, which will establish interoperable electronic authentication solutions to match levels of risks and business needs across government agencies.

Key to achieving improved information quality will be further development of the Exchange Network. The Exchange Network is a comprehensive, integrated information network that is being designed to facilitate information sharing among EPA and its state partners using standardized data formats and definitions, and an internet based approach to receiving and distributing information. The Exchange Network will fundamentally change the way the Agency and the states and tribes do business, and will improve data accuracy, reduce burden, and improve the utility of environmental information for decision making at all levels.

The Agency will continue to increase the number of EPA systems receiving data electronically via the Exchange Network. This will, in turn, accelerate the development and use of common data exchange formats and data standards, refine the Agency's technical architecture, begin to implement a system of access, develop environmental indicators, and enhance efforts to integrate and use geospatial information.

In FY 2004, the Central Data Exchange (CDX) will be firmly established as EPA's enterprise electronic portal for collecting and exchanging environmental information. The CDX will serve as the Agency's node on the Exchange Network and have the capability to accept and translate different data transmission formats used by states, facilities, and laboratories. The CDX will be a model of e-government by providing the capability to electronically sign and file reports from the regulated community.

EPA will work on implementing a secure and comprehensive "system of access" that will allow users to easily locate relevant data from internal and external sources and access the tools needed to analyze it based on their own individual level of authorization. Investments in the out years will expand the system of access to provide for enhanced public accessibility as appropriate.

In FY 2003, EPA issued the draft EPA State-of-the Environment Report. This initial report uses environmental indicators to provide information about the condition of the environment at the national level. While this is an important step, EPA recognizes that additional public information needs exist. The public and key decision-makers often need information specific to smaller geographic regions such as states, counties, metro areas, and tribal areas. Also, EPA has identified key gaps in the data needed to generate adequate indicators to fully characterize environmental outcomes. Finally, EPA needs to put environmental indicators to use to help achieve the PMA by helping decision-makers assess the effectiveness of their environmental programs and make adjustments to manage for improved environmental results. Responding to these needs, EPA will provide interactive capabilities to allow users to access indicators at smaller geographic scales, such as states and counties; and address key priority gaps in data that need to be filled in order to generate indicators to support priority programs.

Using advanced information technology, EPA will provide the capability for decision-makers to link data about their resources and activities to indicators of environmental outcomes, enabling them to assess the effectiveness of their programs in protecting human health and the environment and supporting their ability to manage for improved results.

As mandated by Section 313 of Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 6607 of the Pollution Prevention Act, EPA annually collects information on listed toxic chemicals from certain industries and makes the information available to the public through various means, including a publicly accessible national database. In FY 2004, EPA will continue to reduce Toxic Release Inventory (TRI) reporting burdens on industry and improve TRI data quality by distributing its new software tool, TRI-ME (Made Easy). EPA also expects to increase the percentage of TRI reporting forms that are submitted in digital format.

EPA will continue to refine and expand the public's understanding of the TRI data by improving data access tools such as the TRI Explorer. In FY 2003, EPA will release data for the first reporting year since the Agency lowered the TRI reporting thresholds for lead and lead compounds in calendar year of 2001. As part of its on-going responsibilities under the EPCRA, EPA will continue to respond to petitions to add and delete chemicals on the TRI list, and to other petitions to amend the program.

In FY 2004, investments will also bring enhancements to the EPA library collection. The collection has not been updated in the last five years, and no longer includes the core references and titles expected in a full-service environmental library.

The Enforcement and Compliance Program will continue to contribute to the Agency-wide Enhanced Public Access Project. This project is intended to make all significant Agency guidance, policy statements and site-specific interpretations of the regulated entities' environmental management practices electronically accessible to the regions, states, industry, and the public.

The Agency will also benefit from the work of the National Advisory Council on Environmental Policy and Technology (NACEPT) and its standing committees, and facilitate and monitor the Agency's progress on adopting NACEPT recommendations. In addition, EPA will manage statutorily mandated advisory committees dealing with implementation of the environmental side accords to the North American Free Trade Agreement and with environmental and infrastructure issues along the U.S./Mexico border. Through these stakeholder committees, the Good Neighbor Environmental Board, and the National and Governmental Advisory Committees, EPA receives broad advice as national and international environmental policy is developed and implemented. This is accomplished mainly by ensuring staff support via the Office of Cooperative Environmental Management, and executing efficient and effective operation of EPA advisory committees. EPA has recently concentrated on enhancing the Agency's ability to use stakeholder processes, and its Federal advisory capacity has improved vastly to enhance EPA's environmental decision making.

The regulatory development process ensures the Agency's compliance with various statutes and Executive Orders. Through improved and streamlined regulatory processes that include increased public access, EPA is working to provide quality information to stakeholders. EPA will continue to develop negotiated rulemakings, policy dialogues and other consensus-based stakeholder involvement techniques at the national, regional, local and international levels. By involving stakeholders in the crafting of programs and rules by which they must abide, EPA

promotes innovative, effective and cost effective solutions and fosters earlier, more complete compliance.

In FY 2004, the Agency will continue to advance these objectives by ensuring that EPA rulemakings adhere to all applicable statutory and executive requirements, and achieve environmental results with minimum burden on the public. The Agency will continue its outreach to small businesses, small governments, and small non-profits, establishing formal mechanisms to build small entity partnership involvement in Agency rulemakings. EPA will complete Regulatory Flexibility analyses for all rulemakings that may have a significant impact on a substantial number of small entities and continue a small community's outreach program to gather information on the potential impact of EPA's rules on small communities.

In support of this objective, the Office of Congressional and Intergovernmental Relations (OCIR) responds to congressional requests for information, written and oral testimony, briefings, and briefing materials. It ensures that Congress receives the information needed to make policy and program decisions on environmental and public health issues. In addition to working with Congress, OCIR works closely with the Agency's program offices to keep them informed of current activities that affect their particular subject areas. OCIR develops legislative strategies to support the program offices and coordinates Agency appearances before congressional committees, as well as responses to congressional transcripts and questions for the record.

OCIR also serves as the Agency's primary point of contact for national associations and other groups representing state and local governments and for individual states and local governments on environmental issues, programs and initiatives. It ensures that these representative groups receive accurate and current information needed to make decisions on environmental and public health issues, and have an appropriate level EPA person available to participate in meetings or assemblies. Additionally, the office provides direct assistance and information to states, local governments, and elected officials on EPA issues, programs, and current environmental concerns. As a key element in building two-way communications, the office also works closely with the Agency's program offices to keep them informed of current activities at the local level and of any policies the local governments and national associations may be advocating that affect a particular program office's subject area. OCIR also supports the Local Government Advisory Committee and its Small Community Advisory Subcommittee. These committees, formed under the provisions of the Federal Advisory Committee Act, provide the Agency a direct forum for exchanging important information on the management of national environmental programs and the needs and concerns of states and local governments.

As the lead for liaison with state and local agencies, OCIR provides regular, timely communications by preparing the Agency's leadership to effectively address priority issues and develop appropriate responses. It works with states and state associations to ensure that state concerns are considered in Agency policies, guidance, and regulations. Additionally, OCIR functions as the lead on state issues relating to the National Environmental Performance Partnerships System. In 2004, OCIR will assess the U.S. environmental service delivery system, including the National Environmental Performance Partnership System (NEPPS).

The Office of the Executive Secretariat (OEX) logs, assigns, and tracks correspondence received by the Administrator and Deputy Administrator to help ensure that citizens' comments, questions, ideas, and concerns are directed to the appropriate program and/or regional offices for informed response, for inclusion in official public comment files, and/or for other necessary action. OEX also has responsibility for ensuring the quality control of executive responses.

The Agency's Office of Small and Disadvantaged Business Utilization (OSDBU) provides technical assistance to Headquarters and Regional program office personnel to ensure that small, minority and women-owned businesses receive a fair share of EPA's procurement dollars. This fair share may be received either directly or indirectly through EPA grants, contracts, cooperative agreements, or interagency agreements. Pursuant to P.L.102-389, the Agency has a national goal of 8% utilization of minority and women-owned businesses in the total value of Agency procurement and financial assistance agreements. OSDBU and its Regional counterparts also assist the Agency in meeting its direct procurement goals for small, small disadvantaged, HUBZone, Women-Owned, and Service Disabled Veteran-Owned Small Businesses. These efforts enhance the ability of small, minority and women-owned businesses to participate in the Agency's objective to protect public health and the environment.

As a result of the Supreme Court Decision in *Adarand v. Peña*, 115 S. Ct. 2097 (1995), EPA is in the process of proposing a rule for the participation of Disadvantaged Business Enterprises in procurements funded through assistance agreements. OSDBU is taking the lead in this effort. During FY 2004, the Agency expects to be drafting the final rule.

The former Office of Communications, Education, and Media Relations was reorganized in 2002 and renamed the Office of Public Affairs (OPA). OPA uses diverse media resources to aid the public's understanding of science to increase awareness and perception of environmental issues and their technological and scientific solutions. The Office informs the public about environmental problems and goals, and strengthens the integration of policy-regulatory decisions in its communications messages. OPA, and its regional counterparts, manage the development and approval of communication products and publish them in print and on EPA's Web site in coordination with the Office of Environmental Information. OPA manages the Agency's homepage, press releases database, Administrator's speeches database, and the newsroom Web page. The office conducts oversight of Web and print publications and directs audit reports to appropriate offices. OPA works with the Administrator to keep Agency staff and the public informed about major policy decisions, initiatives, events, and key personnel appointments. The Office is also responsible for the electronic distribution of mass mail information for the Administrator and her designees.

FY 2004 Change from FY 2003 Request

EPM

- (+\$2,700,000) Under the theme of enabling sound environmental decisionmaking through e-gov, this investment supports the following programs:
 - *Build-out of the Enterprise Repository*: Assembling our core environmental program data, geospatial information, metadata, and other systems of data registries into one integrated enterprise repository that is fully accessible.
 - *Environmental Data Registries*: Addresses EPA data management problems by establishing the tools necessary for data registration, standardization, and sharing.
 - *CDX Portal*: Provides continued support for the CDX portal as the single electronic point of entry for many environmental data submissions to the Agency; thereby reducing and simplifying EPA's vast data collection operations.
- (+\$5,900,000) EPA will actively participate in several of the Administration's electronic government (e-gov) initiatives, building on efforts started in 2002. E-gov is a major component of the President's Management Agenda and will spur government-wide service improvements and efficiencies. Some of the initiatives EPA will work on in FY 2004 include:
 - *Online rule-making or e-rulemaking*, which will create a centralized docket system for all Federal agencies and will allow the public to access and search all publicly available regulatory material;
 - *Electronic records management*, a project that will effectively manage and facilitate access to Agency information in order to support and accelerate decision-making, ensure accountability, and provide the tools that agencies will need to manage their records in electronic form;
 - *Geospatial one-stop*, a program that will coordinate and enhance the use of geospatial information, tools, and technologies so that the Agency, Regions, and industry can better make decisions about protecting and improving the environment and public health; and,
 - *e-Authentication*, which will establish interoperable electronic authentication solutions to match levels of risks and business needs across government agencies.
- (-\$6,874,600) Represents elimination of the Systems Modernization Fund (SMF). While the SMF fulfilled an urgent need in the past, EPA is not well-served by managing systems development and modernization outside the EPA's CPIC review and budget process.

- (+\$1,000,000) To assess the U.S. environmental service delivery system, including the National Environmental Performance Partnership System (NEPPS).
- (-\$2,144,600, -10 FTE) Resources for public access previously in Goal 7 have been consolidated with the rest of OECA's data management program in Goal 9. OECA will continue to support data integration projects, such as Integrated Data for Enforcement Analysis (IDEA) that makes integrated compliance data from several media-specific databases available nationally in an interactive online mode. In addition, OECA will continue to contribute to the Agency-wide Access to Interpretive Documents project, intended to make all significant Agency guidance, policy statements and site-specific interpretations of the regulated entities' environmental management practices electronically accessible to the Regions, states, industry and the public.
- (-\$1,341,300, -11.9 FTE) Resources will be shifted from Goal 7, Objective 1 to streamline funding mechanisms and consolidate Community Based Environmental Protection (CBEP) programs with similar activities in Goal 3 and Goal 4.

Superfund

- (-\$380,000) Represents elimination of the SMF. While the SMF fulfilled an urgent need in the past, EPA is not well-served by managing systems development and modernization outside the EPA's CPIC review and budget process.
- (-\$485,500, -0.7 FTE) Resources for public access previously in Goal 7 have been consolidated with the rest of OECA's data management program under this objective. OECA will continue to support data integration projects, such as Integrated Data for Enforcement Analysis (IDEA) that makes integrated compliance data from several media-specific databases available nationally in an interactive online mode. In addition, OECA will continue to contribute to the Agency-wide Enhanced Public Access Project, intended to make all significant Agency guidance, policy statements and site-specific interpretations of the regulated entities' environmental management practices electronically accessible to the Regions, states, industry and the public. The Enforcement and Compliance History On-Line (ECHO) web site will make some enforcement and compliance data available to the public through the internet.

GOAL: QUALITY ENVIRONMENTAL INFORMATION

OBJECTIVE: INCREASE AVAILABILITY OF QUALITY HEALTH AND ENVIRONMENTAL INFORMATION.

Annual Performance Goals and Measures

Process and Disseminate TRI Information - OEI

- | | |
|---------|--|
| In 2004 | The increased use of the Toxic Release Inventory Made Easy (TRI-ME) will result in a total burden reduction of 5% for Reporting Year 2003 from Reporting Year 2002 levels. |
| In 2003 | Expanded information on releases and waste management of lead and lead compounds will be reported by 8,000 facilities in TRI in Reporting Year 2001 and increased usage of TRI-ME will result in total burden reduction of 5% for Reporting Year 2002. |

In 2002 EPA reduced reporting burden, improved data quality, lowered program costs, and speeded data publication by increasing the amount of TRI electronic reporting from 70% to 92%.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Total electronic reporting of all chemical submissions processed. (Includes diskette submissions created by ATRS, TRI-ME, and other reporting software programs, as well as web-based submissions.)	92			Percent
Facilities reporting releases and waste management of lead and lead compounds.		8000		Facilities
Percentage of TRI chemical forms submitted over the Internet using TRI-ME and the Central Data Exchange.		25	50	Percent

Baseline: In FY 2001, TRI electronic reporting was 70%.

Information Exchange Network

In 2004 Improve the quality, comparability, and availability of environmental data for sound environmental decision-making through the Central Data Exchange (CDX).

In 2003 Decision makers have access to the environmental data that EPA collects and manages to make sound environmental decisions while minimizing the reporting burden on data providers.

In 2002 The Central Data Exchange (CDX), a key component of the environmental information exchange network, became fully operational and 45 states are using it to send data to EPA; thereby improving data consistency with participating states.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
States using the Central Data Exchange (CDX) to send data to EPA.	45	46		States
In preparation for increasing the exchange of information through CDX, implement four data standards in 13 major systems and develop four additional standards in 2003.		8		Data Standard.
Number of private sector and local government entities, such as water authorities, will use CDX to exchange environmental data with EPA.			2000	Entities
CDX offers online data exchange for all major national systems by the end of FY 2004.			13	Systems
Number of states using CDX as the means by which they routinely exchange environmental data with two or more EPA media programs or Regions.			46	States

Baseline: The Central Data Exchange program began in FY 2001.

Verification and Validation of Performance Measures

FY 2004 Performance Measures:

- **Central Data Exchange (CDX) offers online data exchange for all 13 major national systems by the end of FY 2004.**
- **The number of states using CDX as the means by which they routinely exchange environmental data with two or more EPA media programs or regions.**
- **The number of private sector and local government entities, such as water authorities, will use CDX to exchange environmental data with EPA.**

Performance Database: CDX Customer Registration Subsystem.

Data Source: Data are provided by state CDX users.

Methods, Assumptions, and Suitability: All CDX users must register before they can begin reporting to the system. The records of registration provide an up-to-date, accurate count of users. Users identify themselves with several descriptors.

QA/QC Procedures: QA/QC is performed in accordance with a CDX Quality Assurance Plan. Specifically, data are reviewed for authenticity and integrity. Automated edit checking routines are performed in accordance with program specifications and CDX quality assurance guidance.

Data Quality Reviews: CDX successfully completed independent security risk assessment in the summer 2001. In addition, routine audits of CDX data collection procedures and customer service operations are provided weekly to CDX management and staff for review. Included in these reports are performance measures such as the number of CDX new users, number of submissions to CDX, number of help desk calls, number of calls resolved, ranking of errors/problems, and actions taken. These reports are reviewed and actions discussed at weekly project meetings.

Data Limitations: The CDX system collects, reports, and tracks performance measures on data quality and customer service. While its automated routines are sufficient to screen systemic problems/issues, a more detailed assessment of data errors/problems generally requires a secondary level of analysis that takes time and human resources.

Error Estimate: CDX incorporates a number of features to reduce errors, such as pre-populating data whenever possible, edit checks, etc. The possibility of an error in the number of states registered for CDX, e.g., double-counting of some sort, is extremely remote (far less than 1%).

New/Improved Performance Data or Systems: CDX coalesces the registration/submission requirements of many different state-to-EPA data exchanges into a single web-based system. The system allows for a more consistent and comprehensive management and performance tracking of many state customers. The creation of a centralized registration system, coupled with the use of web forms and web-based approaches to submitting the data, invite opportunities to introduce automated quality assurance procedures for the system and reduce human error.

References: CDX website (www.epa.gov/cdx).

FY 2004 Performance Measure: Percentage of Toxic Release Inventory (TRI) chemical forms submitted over the internet using TRI-Made Easy and the Central Data Exchange.

Performance Database: TRI System (TRIS)

Data Source: Facility submissions of TRI data to EPA.

Methods, Assumptions, and Suitability: As part of the regular process of opening the mail at the TRI Reporting Center, submissions are immediately classified as paper or floppy disk. This information is then entered into TRIS. The identification of an electronic submission via CDX is done automatically by the software.

QA/QC Procedures: After the mail room determines whether a submission is on paper or floppy disk, staff review the determination during the normal process of entering and tracking submissions.

Data Quality Reviews: No formal data quality reviews have been conducted.

Data Limitations: Occasionally some facilities send in their forms in duplicative formats: e.g., paper and floppy disc. Both are entered into TRIS, and TRIS then shows the submission as floppy only.

Error Estimate: The error rate has not been assessed. The quality of the data is believed to be high.

New/Improved Performance Data or Systems: None.

References: www.epa.gov/TRI

Coordination with Other Agencies

EPA works with its state partners under the State/EPA Information Management Workgroup and the National Steering Board. This workgroup has created action teams to jointly develop key information projects. Action teams consist of EPA, state, and tribal members. They are structured to result in consensus solutions to information management issues which affect states, tribes, and EPA, such as the development and use of environmental data standards, and implementation of new technologies for collecting and reporting information.

EPA also participates in multiple workgroups with other Federal agencies including the United States Geological Survey, Federal Geographic Data Committee, and Chief Information Officer Council. The Agency is actively involved with several agencies in developing government-wide e-government reforms, and continues to participate with the Office of Homeland Security and national security agencies on homeland security. These multi-agency workgroups are designed to ensure consistent implementation of standards and technologies across Federal agencies in order to support efficient data sharing.

The TRI program coordinates with other Federal agencies, particularly those that are required to report to TRI pursuant to Executive Order 13148 (Greening the Government through Leadership in Environmental Management), such as the Department of Energy and the Department of Defense. Other agencies, such as the Internal Revenue Service, use TRI data. EPA works with these agencies to facilitate access and use of the data.

The TRI program coordinates with other Federal agencies in performing hazard assessments of TRI chemicals to ensure that consistent data sets are used and, to the extent

possible, that interpretation of data is consistent. In addition, TRI is one of the leading systems of its type in the world. As such, EPA participates in a number of international consortia on TRI-type systems. TRI, along with its Canadian equivalent, comprises the North American Pollutant Release and Transfer Register. In these arenas, EPA coordinates with the Department of State and other Federal agencies. Finally, the TRI program has substantial interaction with state agencies. States use TRI data for a number of purposes including in geographic information systems.

Statutory Authorities

National Environmental Education Act

Federal Managers Financial Integrity Act

Government Performance and Results Act

Clinger-Cohen Act

Computer Security Act

Privacy Act

Clean Air Act (42 U.S.C. 7601-7671q) and amendments

Clean Water Act (33 U.S.C. 1251 - 1387) and amendments

Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601-9675)

Emergency Planning and Community Right-to-Know Act section 313 (42 U.S.C. 110001-11050)

Government Paperwork Elimination Act

Federal Insecticide, Fungicide and Rodenticide Act (7 U.S. C. 136-136y)

Pollution Prevention Act (42 U.S.C. 13101-13109)

Resource Conservation and Recovery Act (42 U.S.C. 6901-6992k)

Safe Drinking Water Act section 1445 (42 U.S.C. 300f-300j-26)

Toxic Substance Control Act section 14 (15 U.S.C. 2601-2692)

North American Agreement on Environmental Cooperation

Freedom of Information Act (5 U.S.C. 552)

Paperwork Reduction Act Amendment of 1995 (44 U.S.C. 3501-3520)

Small Business Regulatory Enforcement Fairness Act

Unfunded Mandates Reform Act

Congressional Review Act

Regulatory Flexibility Act

Executive Order 13148, Greening the Government through Leadership in Environmental Management

Enterprise for the Americas Initiative Act (7 U.S.C. 5404)

Environmental Research, Development, and Demonstration Act of 1981

Federal Advisory Committee Act (5 U.S.C. App.)

Federal Food, Drug and Cosmetic Act

Federal Insecticide, Fungicide and Rodenticide Act (7 U.S. C. 136-136y)

Executive Order 12915 - Federal Implementation of the North American Agreement on Environmental Cooperation

Superfund Authorization Reauthorization Act

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Quality Environmental Information

Objective: Provide Access to Tools for Using Environmental Information.

By 2006, EPA will provide access to new analytical or interpretive tools beyond 2000 levels so that the public can more easily and accurately use and interpret environmental information.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Provide Access to Tools for Using Environmental Information.	\$49,493.9	\$48,181.3	\$47,071.0	(\$1,110.3)
Environmental Program & Management	\$35,575.2	\$34,707.9	\$30,757.6	(\$3,950.3)
Hazardous Substance Superfund	\$3,968.6	\$4,105.9	\$930.8	(\$3,175.1)
Science & Technology	\$9,950.1	\$9,367.5	\$15,382.6	\$6,015.1
Total Workyears	164.8	169.7	163.5	-6.2

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Capacity Building	\$0.0	\$162.8	\$0.0	(\$162.8)
Communicating Research Information	\$5,543.7	\$5,569.6	\$11,399.1	\$5,829.5
Congressionally Mandated Projects	\$6,175.0	\$0.0	\$0.0	\$0.0
Data Collection	\$125.9	\$125.9	\$0.0	(\$125.9)
Data Standards	\$4,839.9	\$3,695.2	\$4,200.6	\$505.4
Environmental Justice	\$5,064.4	\$4,978.8	\$0.0	(\$4,978.8)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Facilities Infrastructure and Operations	\$2,865.7	\$2,345.8	\$2,606.9	\$261.1
Geospatial	\$860.5	\$279.4	\$10,437.5	\$10,158.1
Homeland Security-Communication and Information	\$253.1	\$0.0	\$0.0	\$0.0
Homeland Security-Preparedness, Response and Recovery	\$7.0	\$0.0	\$0.0	\$0.0
Information Integration	\$1,440.3	\$0.0	\$0.0	\$0.0
Information Technology Management	\$7,206.7	\$9,362.1	\$7,761.6	(\$1,600.5)
Legal Services	\$812.2	\$925.0	\$963.0	\$38.0
Management Services and Stewardship	\$918.8	\$799.9	\$1,027.8	\$227.9
Public Access	\$7,252.6	\$9,983.5	\$7,593.1	(\$2,390.4)
Regional Management	\$715.7	\$754.3	\$0.0	(\$754.3)
Reinventing Environmental Information (REI)	\$2,290.9	\$2,277.3	\$0.0	(\$2,277.3)
System Modernization	\$6,265.0	\$5,835.4	\$0.0	(\$5,835.4)
Toxic Release Inventory / Right-to-Know (RtK)	\$877.6	\$1,086.3	\$1,081.4	(\$4.9)

FY 2004 Request

In FY 2004, EPA will implement a comprehensive system of access to environmental information resources. This investment will enable EPA to establish a comprehensive and secure "system of access" to EPA's data resources that will allow users to easily locate relevant data from internal and external sources and access the tools needed to analyze it based on their own individual level of authorization. Investments in out years will expand the system of access to provide for enhanced public accessibility as appropriate.

EPA will continue to support comprehensive approaches to environmental protection, including supporting information management approaches that integrate and interpret the many data sets and information sources that are used to support environmental decisions. These include the increased availability and accuracy of locational and spatial data and related mapping tools. To further these efforts, the Agency is committed to working in partnership with the United States Geographic Survey (USGS) and the Federal Geographic Data Committee (FGDC) through the Geospatial One-Stop e-government initiative to implement a national spatial data infrastructure, which will enhance community's ability to pinpoint the environmental information to specific geographic locations.

EPA will utilize the Facility Registry System (FRS), a central facility identification database, to directly support the Agency's homeland security efforts. It will ensure that the facility identification record is populated with accurate values identifying the location and industrial designation of all facilities regulated under Federal environmental statutes. FRS will identify facilities that are regulated by the Agency. FRS will accurately identify regulated facilities with the proper environmental interest type (i.e., major, minor, etc.) to allow security activities to be prioritized when appropriate. Additionally, this database will allow the Agency and other government departments to design and develop decision making tools and applications focused on homeland security matters which have the need for data focused around places of environmental interest.

In FY 2004, EPA will improve its geospatial infrastructure and expand the scope and availability of "place-based" information. Having access to quality information about conditions at a "place" - whether it is a registered site, a community, or is nationally focused - is critical to effective decision-making. This investment focuses on establishment of a three-pronged effort: an EPA Geography Network that would provide a one-stop shopping capability with searching tools, geographic display, and download/access options available for EPA employees and approved external users; establishment of data standards and creation of new geographic datasets of common interest (land cover, soils, etc.); and development of sophisticated new analytical tools that integrate EPA's own geospatial data resources with important new internal and external data flows (e.g. health data, satellite imagery, land cover analysis) to enhance the scope and quality of information that can be brought directly to the desktop of our decision-makers. In order to minimize duplication of effort and to help ensure consistency across the Federal government, all geospatial efforts will be in concert with the Geospatial One-Stop e-Government initiative.

EPA will provide environmental analysis that responds to the needs of its partners and stakeholders, complementing data access with analysis to support environmental understanding. On a continuing basis, EPA will dialogue with its partners and stakeholders to make sure their needs are fully understood and are being addressed. Users will have choices between accessing data as submitted, using EPA-provided analytical tools to help draw their own conclusions from the data, or using analytical information products that present information derived from the data. The analytical environment will provide capabilities for geospatial analyses to support community-based efforts, visualization to facilitate interpretation of data, and statistical analyses that use reliable software and algorithms to aid in data interpretation.

EPA will promote analytical approaches that integrate data from different sources to provide a more holistic view and understanding of the environment, encouraging informed decision-making. EPA will undertake a best practices series of documents specifying the proper steps for creating information usable for decision making. Insights gained from environmental analysis will support a fuller understanding of environmental outcomes, and remaining challenges. Environmental analysis will support better regulatory decision-making and greater knowledge about the environment.

EPA will also increase the availability and quality of data for its emergency response and core operational business needs through development of a Situation Room - a primary physical

location with an alternative back-up site and a "virtual" analytical tool - set to allow EPA and its partners to respond effectively to emergency incidents and also support business needs (strategic planning, program development, Government Performance and Results Act analysis, resource targeting, etc.).

In FY 2004, EPA's quality program will continue to develop the Agency-wide policies and procedures for planning, documenting, implementing, and assessing data collection and use in Agency decisions. The quality program will also develop training material on the policies and oversee implementation of EPA organizations' Quality Systems.

EPA's posted its Agency-specific "Guidelines to Ensure and Maximize the Quality of Information Disseminated by the Environmental Protection Agency" in October of 2002. These guidelines were drafted in response to Section 515 of the Treasury and General Government Appropriations Act for FY 2001 directing OMB to issue guidelines that "provide policy and procedural guidance to Federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information, including statistical information, disseminated by Federal agencies." The guidelines, available at www.epa.gov/oei/qualityguidelines, underscore EPA's commitment to disseminate high quality information and describe new mechanisms that enable affected persons to seek and obtain corrections by EPA when disseminated information, in their opinion, does not comply with EPA's or OMB's guidelines.

The Agency will continue the development of its Environmental Indicators Initiative (EII) in order to establish a set of performance indicators that measure environmental results. Environmental indicators are an important tool for simplifying, analyzing, and communicating information about environmental conditions and human health. EPA is in the process of identifying environmental indicators that will be used to produce a draft State-of-the-Environment Report in FY 2003. EPA is also reviewing these indicators to identify gaps and set long-term priorities for the EII. These indicators will measure the impact of human activities on the environment and the associated health effects on communities and ecosystems.

Research

EPA supports a portfolio of research and regulatory programs to develop and apply environmental health and ecological risk assessment methods, models, and information, ecological toxicity information, and improvements in monitoring, measurement, and data management technologies to protect human health and the environment. Providing all Americans with access to sound environmental information and involving the public in EPA's work are essential parts of a comprehensive approach to protecting the environment. Access to environmental information enables scientists, risk assessors, government officials, and the public to be involved and to make informed environmental decisions.

An important part of EPA's effort to provide readily accessible information is the Integrated Risk Information System (IRIS), an EPA database of Agency consensus health information on environmental contaminants. In FY 2004, the Agency will enhance its IRIS program, which is used extensively by EPA Program Offices and Regions, the states, and the general public when consistent, reliable toxicity information is needed for credible risk

assessments. The Agency's Risk Assessment Forum will continue to promote Agency-wide consensus on difficult and controversial risk assessment issues and ensure that this consensus is incorporated into appropriate Agency risk assessment guidance. Also, additional environmental information is made available through the Evaluation and Interpretation of Suitable Tests Results in AQUIRE (EVISTRA), a database that provides EPA's Program Offices and Regions with ecological toxicity information.

Integrated Risk Information System (IRIS)

The human health effects information in IRIS is widely used for risk assessments and other health evaluations at all levels of government, as well as in the public and private sectors. In order to conduct sound risk assessments, particularly as more risk-based decision-making takes place at the state and local levels, it is essential to provide access to current and credible health effects information. Enhancements to IRIS will ensure quality, accuracy, credibility, and applicability of IRIS data. Additionally, all assessments undergo external scientific peer review.

EPA estimates that the optimal level of production would be approximately 50 new or updated chemical assessments per year, updating each chemical at least once every 10 years. In pursuit of this objective, in FY 2004, the Agency will augment its investment in IRIS with the goal of increasing the number of assessments completed on an annual basis. The Agency will continue to:

- produce, update, and maintain health assessments in IRIS;
- ensure appropriate external peer review of IRIS summaries and support documents;
- facilitate Agency consensus and resolve issues in a timely manner;
- maintain a widely-accessible Internet version of IRIS, including explanatory materials, available at the local level to support community-based environmental protection; and
- provide active outreach and communication with current and potential new users.

Risk Assessment Forum

The Agency's Risk Assessment Forum (RAF) will continue to develop a number of products to assist risk assessors, such as risk assessment guidelines, technical panel reports on special risk assessment issues, and peer consultation and peer review workshops addressing controversial risk assessment issues. In FY 2004, the RAF will focus on cumulative risk assessment, ecological risk assessment, risk assessments for children, guidance on the assessment of metals and will develop various issue papers and workshop reports. The RAF will also continue to develop distance learning modules for EPA's risk assessment guidelines.

EVISTRA

EVISTRA involves the development and maintenance of a high quality database to provide ecological toxicity information to Regions, states and the public. The EVISTRA database contains ecological toxicity information used to develop water quality criteria for the protection of aquatic life, terrestrial plants, and terrestrial wildlife. The database will make available evaluated and interpreted results of selected aquatic toxicity tests. EVISTRA became available on the Internet in FY 2001 with the initial release of critically evaluated chemical effects data to support risk assessments and development of criteria for regulators for the protection of aquatic life, wildlife and terrestrial plants. In FY 2004, the Agency will continue to develop and maintain the EVISTRA database.

FY 2004 Change from FY 2003 Request

EPM

- (+\$2,000,000) Supports two critical elements of the Agency's public access program:
 - *Public Access Base Support*: Provides additional funding to increase public access funds shortfalls in base programs.
 - *Establish Critical Environmental Indicators for Decision Makers*: This project will provide decision-makers with a proto-type integrated system to support integrated access to resource data and information, performance measures, and environmental indicators to allow them to assess the relationship between planned and actual results and manage their programs for improved results.
- (-\$4,735,400, -13.0 FTE) Represents elimination of the Systems Modernization Fund (SMF). While the SMF fulfilled an urgent need in the past, EPA is not well-served by managing systems development and modernization outside the EPA's CPIC review and budget process.
- (+\$2,713,500 and +2.0 FTE) Provides support to enable the Agency to create a robust, reliable Facility Registry System, continue the error correction process in order to ensure that data in EPA systems is reliable and accurate for homeland security purposes, and enhance the availability of place-based environmental information for decision makers.
- (-\$4,241,600, -16 FTE) The Agency's environmental justice program has been moved from Goal 7 to Goal 9.

Superfund

- (-\$1,100,000) Represents elimination of the Systems Modernization Fund (SMF). While the SMF fulfilled an urgent need in the past, EPA is not well-served by managing systems development and modernization outside the EPA's CPIC review and budget process.

- (-\$900,000) The Agency's environmental justice program has been moved from Goal 7 to Goal 9. This does not reflect a decrease to the program.

S&T

Research

- (+\$4,923,180, and 19.2 FTE) This increase reflects the Agency's commitment to enhance the IRIS program and substantially increase the number of IRIS assessments completed/updated on an annual basis. The workyears include 7.0 new postdoctoral scientists and engineers and 12.2 redirected workyears from research on pharmaceuticals and personal care products (PPCPs), endocrine disruptor compounds (EDCs), and lower priority drinking water research on DBPs.

There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: QUALITY ENVIRONMENTAL INFORMATION

OBJECTIVE: PROVIDE ACCESS TO TOOLS FOR USING ENVIRONMENTAL INFORMATION.

Annual Performance Goals and Measures

Data Quality

- In 2004 EPA increasingly uses environmental indicators to inform the public and manage for results.
- In 2003 The public will have access to a wide range of Federal, state, and local information about local environmental conditions and features in an area of their choice.
- In 2002 100% of the publicly available facility data from EPA's national systems accessible on the EPA Website is part of the Integrated Error Correction Process; thereby reducing data error.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Publicly available facility data from EPA's national systems, accessible on the EPA Website, will be part of the Integrated Error Correction Process.	100			Percent
Window-to-My Environment is nationally deployed and provides citizens across the country with Federal, state, and local environmental information specific to an area of their choice.		Nationally		Deployed
Establish the baseline for the suite of indicators that are used by EPA's programs and partners in the Agency's strategic planning and performance measurement process.			1	Report

Baseline: An effort to develop a State of the Environment report based on environmental indicators was initiated in FY 2002.

Research

Risk Assessment

- In 2005 Through FY2005 initiate or submit to external review 38 human health assessments and complete 12 human health assessments through the Integrated Risk Information System (IRIS). This information will improve EPA's and other decision makers' ability to protect the public from harmful chemical exposure

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Complete 4 human health assessments and publish their results on the IRIS website			4	assessments
Initiate or submit to external peer review human health assessments of 30 high priority chemicals.			30	assessments

Baseline: The Integrated Risk Information System (IRIS) is an EPA database containing Agency consensus scientific positions on potential adverse human health effects that may result from exposure to chemical substances found in the environment. IRIS currently provides information on health effects associated with chronic exposure to over 500 specific chemical substances. IRIS contains chemical-specific summaries of qualitative and quantitative health information in support of the first two steps of the risk assessment process, i.e., hazard identification and dose-response evaluation. Combined with specific situational exposure assessment information, the information in IRIS may be used as a source in evaluating potential public health risks from environmental contaminants. IRIS is widely used in risk assessments for EPA regulatory programs and site-specific decision making. Updating IRIS with new scientific information is critical to maintaining information quality and providing decision makers with a credible source of health effects information. Risk assessment work in FY 2004 will provide EPA and other decision makers with needed updates to IRIS so they can make informed decisions on how to best protect the public from harmful chemical exposure.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Establish the baseline for the suite of indicators that are used by EPA's programs and partners in the Agency's strategic planning and performance measurement process.

Performance Database: Repository of indicators (e.g., baseline) compiled during the drafting and finalization of the "State of the Environment Report." To develop the repository, EPA will review indicators that are currently used in the Agency's strategic planning and performance measurement process.

Data Source: Agency planning documents (e.g., EPA's Strategic Plan, Annual Performance Plan, Annual Performance Report, Annual Operating Plan, and National Environmental Performance Partnership Agreements).

Methods, Assumptions and Suitability: The Office of Environmental Information (OEI), the Office of Research and Development (ORD) and the Office of the Chief Financial Officer (OCFO) will review the planning documents and establish a baseline in consultation with key Agency steering committees.

QA/QC Procedures: As the baseline is established, QA/QC protocols also will be developed to ensure that the data supporting the indicators are accurate and complete.

Data Quality Reviews: To be determined and conducted once a baseline has been established.

Data Limitations: The challenge is to develop suitable indicators with sufficient data of known quality.

Error Estimate: To be determined.

New/Improved Performance Data or Systems: The baseline indicators and supporting data for EPA's "State of the Environment Report" are in development.

References: EPA's "State of the Environment Report" and "Technical Support Document" (EPA pub. no. 260-R-02-006) and all EPA planning and performance measurement documents.

FY 2004 Performance Measure: Complete 4 human health assessments and publish their results on the IRIS website.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: Assessments

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2004 Performance Measure: Initiate or submit to external peer review human health assessments of 30 high priority chemicals.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: Assessments

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

Coordination with Other Agencies

In FY 2004, EPA will continue to coordinate with key Federal data sharing partners including the USGS, Bureau of Indian Affairs, and the Fish and Wildlife Service as well as state and local data sharing partners in public access information initiatives such as Window-to-My-Environment and Enviromapper. With respect to community-based environmental programs, EPA coordinates with state, tribal, and local agencies, and with non-governmental organizations, to design and implement specific projects.

The nature and degree of EPA's interaction with other entities varies widely, depending on the nature of the project and the location(s) in which it is implemented. EPA is working closely with the FGDC and the USGS through the Geospatial One-Stop e-government initiative to develop and implement the infrastructure for national spatial data. For EII, EPA is coordinating its program with other state and Federal organizations, including the Council for Environmental Quality and the Environmental Council of States, to insure that the appropriate context is represented for observed environmental and human health conditions.

Research

In developing health assessments for the IRIS database, EPA interacts frequently with other Federal agencies involved in health assessments and research. In the initial drafting, documents such as "Toxicological Profiles" produced by Health and Human Services/Agency for Toxic Substances and Disease Registry (HHS/ATSDR) are routinely consulted for information. EPA also consults and utilizes assessments and research findings from the Food and Drug Administration, National Toxicology Program, National Institute of Environmental Health Sciences, and the National Library of Medicine. Federal agencies are also consulted for peer review of draft IRIS assessments. Finally, the IRIS website has electronic links to other agencies' websites for the education and convenience of the IRIS user.

Statutory Authorities

Pollution Prevent Act

Federal Fungicide, Insecticide and Rodenticide Act

Federal Food, Drug and Cosmetic Act

Safe Drinking Water Act

Federal Managers Financial Integrity Act

Government Performance and Results Act

Paperwork Reduction Act

Freedom of Information Act

Computer Security Act

Privacy Act

Electronic Freedom of Information Act

Government Paperwork Elimination Act

National Environmental Education Act

Federal Managers Financial Integrity Act

Government Performance and Results Act

Clinger-Cohen Act

Freedom of Information Act (FOIA)

Clean Air Act (42 U.S.C. 7601-7671q) and amendments

Clean Water Act (33 U.S.C. 1251 - 1387) and amendments

Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601-9675)

Emergency Planning and Community Right-to-Know Act section 313 (42 U.S.C. 110001-11050)

Federal Advisory Committee Act

Resource Conservation and Recovery Act (42 U.S.C. 6901-6992k)

Safe Drinking Water Act section 1445 (42 U.S.C. 300f-300j-26)

Toxic Substance Control Act section 14 (15 U.S.C. 2601-2692)

North American Agreement on Environmental Cooperation

Small Business Regulatory Enforcement Fairness Act

Unfunded Mandates Reform Act

Congressional Review Act

Regulatory Flexibility Act

Executive Order 12866

Plain Language Executive Order Emergency Planning and Community Right-to-Know Act

Pollution Prevention Act

Federal Fungicide, Insecticide and Rodenticide Act

Research

Clean Air Act (CAA) and amendments

Clean Water Act (CWA) and amendments

Environmental Research, Development, and Demonstration Act (ERDDA) of 1981

Toxic Substances Control Act (TSCA)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

Food Quality Protection Act (FQPA)

Safe Drinking Water Act (SDWA) and amendments

Federal Food, Drug and Cosmetic Act (FFDCA)

Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

Superfund Authorization Reauthorization Act (SARA)

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Quality Environmental Information

Objective: Improve Agency Information Infrastructure and Security.

Through 2006, EPA will continue to improve the reliability, capability, and security of EPA's information infrastructure.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Improve Agency Information Infrastructure and Security.	\$26,921.6	\$30,528.0	\$63,047.8	\$32,519.8
Environmental Program & Management	\$21,124.9	\$25,564.5	\$54,922.2	\$29,357.7
Hazardous Substance Superfund	\$3,911.3	\$4,963.5	\$8,125.6	\$3,162.1
Science & Technology	\$1,885.4	\$0.0	\$0.0	\$0.0
Total Workyears	184.9	185.3	197.8	12.5

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Data Collection	\$0.0	\$0.0	\$600.0	\$600.0
Data Standards	\$0.0	\$0.0	\$11,647.3	\$11,647.3
Facilities Infrastructure and Operations	\$1,648.9	\$1,558.5	\$2,201.6	\$643.1
Geospatial	\$0.0	\$0.0	\$6,035.0	\$6,035.0
Homeland Security-Communication and Information	\$1,928.4	\$0.0	\$1,106.8	\$1,106.8
Information Integration	\$0.0	\$10,428.5	\$0.0	(\$10,428.5)
Information Technology	\$17,441.8	\$15,720.2	\$38,690.9	\$22,970.7

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Management				
Legal Services	\$188.3	\$202.3	\$210.7	\$8.4
Management Services and Stewardship	\$368.1	\$254.2	\$542.0	\$287.8
Public Access	\$375.2	\$420.7	\$2,013.5	\$1,592.8
Reinventing Environmental Information (REI)	\$1,266.1	\$1,343.6	\$0.0	(\$1,343.6)
System Modernization	\$597.3	\$600.0	\$0.0	(\$600.0)

FY 2004 Request

EPA faces many of the same information technology (IT) challenges as other organizations – private or public. However, IT plays a particularly significant role in EPA due to the Agency’s reliance on scientific and analytical data and its need for close collaboration with external partners, and the Agency’s responsibilities for response and recovery under Homeland Security. EPA is adapting to the explosion of emerging technologies and the information management revolution that is enabling organizations to become extremely productive, more effective and timely in decision making, and service oriented. For example, the Administration has a vision of managing for results and increasing the use of scientifically sound indicators. However, this requires the widespread availability of graphically displayed data, derived from scientific models that can only be run in high performance computing environments. The challenge is to provide secure, reliable, and timely access to the data and tools for external partners (e.g. states), other Federal partners, EPA senior managers, and staff across the Agency to make quality environmental decisions in all situations. In order to meet these challenges, EPA proposes investment in five critical areas of work. They are:

- Address critical technology gaps affecting EPA’s ability to deliver information access consistently where interfacing with external partners is an essential dimension of operations.
- Deliver a high speed network and IT Infrastructure that has the capacity to handle the massive amounts of data needed to perform indicators analysis, situation planning, and to collaborate with other parties outside EPA.
- Improve management and reduce cost of IT investments to modernize Agency technology and information infrastructure through adoption of sound investment strategies and architecture planning, consistent with the President’s Management Agenda (PMA) and e-Gov concepts.

- Implement cyber-security for environmental information to assess and mitigate highest priority risks, address critical homeland security requirements, and ensure reliable, secure information access for all EPA personnel, emergency responders (EPA and local) and all external partners.
- Enhance EPA's website management procedures and processes to keep pace with technological advances (with millions of visitors every year, the EPA website has become the focal point of the Agency's communication and outreach on its programs, guidance, and initiatives) and with homeland defense concerns on disclosure of certain information.

EPA has a central infrastructure that provides the basic foundation for developing and managing all EPA information systems and information products. The central infrastructure comprises the Agency's hardware, software, and telecommunications assets, as well as the technical services to support the infrastructure assets. These services range from mainframe and high performance computing, to desktop computing support, local area network operations, internet services, and application development consulting. EPA continues to do benchmarking of its services against other private and public sector entities to ensure cost effectiveness.

Implementing the Presidents Management Agenda and E-Gov initiatives

EPA is fully committed to the concepts that underlie the PMA and e-Gov initiatives and will work to ensure their harmonized implementation. The planned IT investments will support the PMA and e-Gov in the following ways:

Strategic Management of Human Capital

Upgrades to Agency-wide technology provide capacity and tools to support on-line skill building options for the workforce which can not be delivered consistently with the current outmoded infrastructure. This investment enables the Agency to sustain workforce development in the most cost effective manner on a strategic basis to accommodate new requirements as they emerge. IT investments that support this PMA topic, such as the Agency's HR Pro project, will be reviewed and implemented in concert with government-wide e-Gov efforts to help minimize duplication and maximize cost effectiveness.

Competitive Sourcing

A key factor of EPA's strategic investment is outsourcing of infrastructure operational support using performance-based approaches, focused on results with a goal of achieving expanded and higher quality service for resources expended.

Improved Financial Performance

Enhanced support and tools for Agency-wide investment management will provide executives with the fully integrated view of how IT delivers benefits to the Agency's mission. The Agency will be able to build a strong investment portfolio that continuously strengthens the

value of IT investment not only for the Agency, but from a government-wide perspective as well. Also, IT investments that support this PMA topic, such as the Agency's legacy and replacement financial systems projects, will be reviewed and implemented in concert with government-wide e-Gov efforts to help minimize duplication and maximize cost effectiveness.

Expanded Electronic Government

Sharing information with EPA partners in a secure manner is a fundamental aspect of EPA's e-Gov strategy. The infrastructure to deliver secure external partner access will enable more timely and complete exchange of information both to and from EPA. The positive results from these efforts will improve Agency services to state and tribal partners, the regulated community, and other Federal agencies. EPA will continue to integrate e-government efforts across the Agency and will maintain active participation in applicable government-wide e-Gov initiatives.

Budget and Performance Integration

Managers require timely and complete information to monitor accomplishments and make decisions about program actions which will maximize environmental benefit for available resources. Implementing consistent, reliable infrastructure Agency-wide on a sustained basis will enable all levels of the EPA workforce to create, share, and use information in effective ways. This investment also supports EPA's implementation of new tools that will link capital investment planning with financial performance to monitor and validate earned-value results of IT investments.

Investment Benefits

Address critical technology gaps affecting EPA's ability to deliver information access consistently at priority sites.

Current EPA network infrastructure does not effectively support information access for critical functions in a uniform manner across the Agency. The most critical network infrastructure gaps are located in the regions and related non-Headquarters sites where interfaces with external partners and information access are primary dimensions of operations. Implementing the upgrades to deliver reliable, effective capacity to support Agency and external partner information access is a \$30,000,000 challenge, and the regions constitute approximately \$25,000,000 of that total.

EPA proposes to address the network problem in a strategic manner starting in FY 2004 with a combination of a new Agency base investment of \$6,000,000 that will continue in the outyears and this one-time investment of \$10,000,000 to address highest priority regional problem areas. This will close the major infrastructure gaps at the most vulnerable locations, build a stable foundation for state partnerships and e-Gov work, and enable subsequent annual network upgrades and maintenance at base levels in the outyears.

EPA's basic wiring and infrastructure in its buildings and metropolitan campuses has not kept pace with the explosion of data, high performance computing needs, geographically referenced data, or scientific modeling and visualization systems that are critical to the Administration's vision of increased use of indicators and environmental results-oriented management. EPA's laboratories and many field sites often have local wiring infrastructures that are very low in capacity, unreliable, and are increasingly an impediment to productivity and information sharing. Upgrading EPA's network infrastructure will ensure greater staff productivity, more reliable communications, enhanced cyber-security, standardization of equipment, and a decrease the cost of network support. In addition, the infrastructure improvements will enable EPA to: fully support the e-Gov process; implement emerging technologies that allow Agency employees to work more productively; and, increase the capacity to exchange large files with Agency stakeholders. The enhancements will also improve EPA personnel's access to the types of on-line data and programs that create high network demand (e.g., place-based information services). Improved access to on-line data and programs will benefit external partners such as environmental scientists.

Network infrastructure upgrades will be managed across the Agency on an incremental basis under a five-year replacement cycle. This will ensure that the Agency is able to adopt new technology as it emerges. Upgrades will be managed under the Agency's working capital fund desktop service, with appropriated funds allocated to programs to pay their proportional share of the desktop charge. This will provide a permanent solution for the Agency's local infrastructure costs and eliminate the swings in investments and crisis situations that have occurred in recent years.

Manage Modernization of Agency Technology and Information Infrastructure at the Lowest Cost

The Clinger-Cohen Act directs the Administrator, the Chief Information Officer (CIO), and Agency executives to ensure cost-effective management of the Agency's IT portfolio. Consistent with the EPA Inspector General's recommendations and OMB requirements, EPA must implement substantial improvements in its enterprise architecture and capital planning and investment control (CPIC) processes to meet those statutory mandates. EPA proposes to increase the staff and resources available to these processes to provide the strength and depth necessary to ensure EPA's infrastructure planning process is guided by the PMA and e-Gov concepts (e.g., collaboration, cross-Agency development, etc.) and to ensure that the enterprise architecture and CPIC processes are fully integrated and institutionalized across all EPA programs. As these processes are fully implemented, they will allow EPA to achieve greater productivity from its enterprise IT investments.

This investment will also allow EPA executives and program personnel to manage their IT resources and investments in accordance with the PMA. It will help EPA executives and program managers make sound IT investments that promote Agency mission priorities by: supporting decision-making that maximizes the benefit of EPA's enterprise portfolio of IT investments; demonstrating true earned-value benefits including increased productivity and net cost savings through investments; and enabling the Agency to fulfill human capital development requirements for IT management functions (a priority under both the Clinger-Cohen Act and the PMA).

Implement cyber-security for environmental information to assess and mitigate highest priority risks, address critical homeland security requirements, and ensure reliable, secure information access for all EPA personnel and external partners

This investment allows EPA to expand and update the highest priority components of the Agency's cyber-security program in light of the newest types of threats. Effective, risk-based cyber-security protection is an integral component of EPA's information strategy. EPA has a role in homeland defense areas such as the water infrastructure vulnerability assessment and response to chemical incidents, as well as protecting vital data (e.g., worst case scenarios and confidential business index data). The sensitivity of these programs and the information they create and use require EPA to continuously improve cyber-security risk mitigation infrastructure and monitoring. The expansion of EPA's external partner connections and the volume of data exchanged with them requires a corresponding increase to the validation and verification of cyber-security measures protecting those exchanges.

The Agency will achieve the goal of strengthening security plans and organizational security programs through additional reviews and oversight on an Agency-wide scale. New procedures, tools, and training will increase workforce awareness of, and compliance with, individual responsibilities for protecting information assets. Special programs will target management leadership to improve cyber-security management practices. In addition, EPA will continue its aggressive efforts to assess and respond to evolving threats and integrate information security into its day-to-day business operations. Each of these steps is critical to actually achieving the cyber-security necessary to meet the new challenges of homeland defense and increased e-Gov collaboration across agencies.

Enhance EPA's Website management to ensure operation consistent with sound management of sensitive data

With millions of visitors every year, the EPA website has become the focal point of the Agency's communication and outreach on its programs, guidance, and initiatives. Just as the visibility and utility of the site has risen, so has its technical complexity and the complexity of governing the conduct of the site to assure appropriate content, secure delivery, timely response, and an effective user experience. EPA's Web site management procedures and processes must be enhanced to keep pace with this complexity. Technological advances are available to achieve this enhancement, and this proposed investment provides support for three critical aspects of the Agency's web site governance program: Web site content management software (CMS); a search engine replacement; and support for a new topical organization of the Web site. CMS provides a consistent enterprise-wide framework for content management and update processes. It will ensure accountability for information posted on the Web site, improve metadata creation and management, facilitate site archiving, and enforce adherence to Agency Web templates. The Agency's current search engine is nearing the end of its life-cycle and is no longer supported by its vendor. It also utilizes technology that has been superseded, and consequently its search results are considered poor by today's standards. The new engine will greatly improve Agency the user's ability to discover information. Automated text classification software will enable and enhance the Agency's current endeavor to reorganize its Web site according to a topical information architecture. The software is designed to facilitate automatic categorization/dynamic

generation of Web site views by geography, audience, regulatory program, specific chemical, etc.

FY 2004 Change from FY 2003 Request

EPM

- (+\$100,000) Provides additional funding to support increase in Working Capital Fund shortfalls in EPA's Regions.
- (+\$30,623,800/+18.0 FTE) This investment provides funding for Agency-wide fundamental building blocks of EPA's technology infrastructure at all sites (Headquarters, Regional offices, computing centers, labs, and back-up sites). Specific investments include the following:

Infrastructure Gaps at Critical Sites - Address highest priority technology infrastructure problems at EPA regional locations which support critical field personnel and external partner interfaces.

High Speed and Capacity Network - Agency program needs and evolving IT are generating rapidly increasing demands on network infrastructure. EPA's existing infrastructure (wiring, bandwidth, and switching capacity) must be adapted per the Requirements identified by program offices under the enterprise architecture program to ensure that the network can support the level of demand created by new information services when the services are ready for operations.

Manage Modernization of Agency Technology at lowest Cost - EPA needs thorough and tightly integrated management of its IT investment, architecture, training, and policy to ensure that available IT resources address those projects and activities which will provide the greatest value for the Agency's needs. Full implementation of Clinger-Cohen mandates under the direction of the CIO will deliver the needed results.

Web Governance - With millions of visitors every year, the EPA website has become the focal point of the Agency's communication and outreach on its programs, guidance, and initiatives. EPA's website management procedures and processes must be enhanced to keep pace with technological advances.

- (+\$1,106,800 and +1.0 FTE) Provides support to allow first responders, on-scene coordinators, and investigators access to EPA national information (secure extranet) to support their emergency response efforts. Resources will also be devoted to strengthening EPA's security program and cyber-security practices.
- (-\$600,000) Represents elimination of the Systems Modernization Fund (SMF). While the SMF fulfilled an urgent need in the past, EPA is not well-served by managing systems development and modernization outside the EPA's CPIC review and budget process.

GOAL: QUALITY ENVIRONMENTAL INFORMATION

OBJECTIVE: IMPROVE AGENCY INFORMATION INFRASTRUCTURE AND SECURITY.

Annual Performance Goals and Measures

Information Security

- In 2004 OMB reports that all EPA information systems meet/exceed established standards for security.
- In 2003 OMB reports that all EPA information systems meet/exceed established standards for security.
- In 2002 Completed risk assessments on the Agency's critical infrastructure systems (12), critical financial systems (13), and mission critical environmental systems (5).

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Critical infrastructure systems risk assessment findings will be formally documented and transmitted to systems owners and managers in a formal Risk Assessment document.	12			Systems
Critical financial systems risk assessment findings will be formally documented and transmitted to systems owners and managers in a formal Risk Assessment document.	13			Systems
Mission critical environmental systems risk assessment findings will be formally documented and transmitted to systems owners and managers in a formal Risk Assessment document.	5			Systems
Percent compliance with 13 criteria used by OMB to assess Agency security programs reported annually to OMB under the Government Information Security Regulatory Act.		75	75	Percent
Percent of intrusion detection monitoring sensors installed and operational.		75	75	Percent

Baseline: In FY 2002, the Agency started planning an effort to expand and strengthen its information security infrastructure.

Agency-Wide IT Infrastructure

- In 2004 Implement Agency-wide information technology upgrades that will incrementally strengthen and expand infrastructure each year to achieve secure, consistent access for mission priorities, and homeland security needs.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Annual upgrades to technology infrastructure and enterprise information tools occur on schedule per plan, with critical LAN capacity/capability upgrades managed on a five-year replacement cycle.				1 Report

Baseline: The baseline for this program is zero, as it will just begin in FY 2004.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Annual upgrades to technology infrastructure and enterprise information tools occur on schedule per plan, with critical local area network capacity/capability upgrades managed on a five-year replacement cycle.

Performance Database: Output measure. During 2004, the Agency will assess options for capturing and reporting on accomplishments in information technology upgrades.

Data Source: The enterprise architecture sequencing plan will contain Agency priorities for annual actions established by senior executive direction. Accomplishments against the plan will be documented through system inventory reports itemizing the successful installation and operations of key components (hardware/ software/application/data store).

Methods, Assumptions and Suitability: Enterprise architecture tools and products (baseline, target and sequencing plan) support executive decision-making for Agency-wide information technology change management. It associates program strategic directions with best technology options and capital planning to achieve cost-effective Agency-wide information technology solutions. Agency enterprise architecture and capital planning will be consistent with Federal models, guidelines and standards, and support explicit linkage of Agency investments with Federal e-government initiatives where applicable. Capital planning is the process used to make IT investments per the Clinger-Cohen Act, and the Office of Management and Budget (OMB) requirements. The Federal government's annual Capital Planning and Investment Control process (CPIC) involves the preparation of justifications for IT investments that are reviewed/approved by the Chief Information Officer (CIO) and the Chief Financial Officer and submitted to OMB as part of the larger budget process. OMB requires all Agencies to have enterprise architectures consistent with the federal enterprise architecture models.

QA/QC Procedures: N/A

Data Quality Reviews: National program managers, the Office of Inspector General (OIG), and the Office of Management and Budget (OMB) review major enterprise architecture tools and products (baseline, target, sequencing plan) before the Agency implements them in final form.

Data Limitations: The enterprise architecture sequencing plan, in particular the technical component describing the annual investments for infrastructure, requires yearly review to ensure consistency with market directions.

Error Estimate: N/A

New/Improved Performance Data or Systems: The Agency is in the process of implementing capital planning and reporting software tools (I-TIPS). It is also creating linkages between the Agency's financial tracking systems and information technology investments to generate information needed for executive review of information technology investment progress. Financial tracking is the means to confirm actual spending against planned levels to identify potential variances.

References: Enterprise architecture products will be made accessible via the EPA internet with the exception of security architecture components, which will be reserved for reference on a need-to-know basis.

FY 2004 Performance Measure: Percent compliance with 13 criteria used by Office of Management and Budget (OMB) to assess Agency security programs reported annually to OMB under Government Information Security Regulatory Act.

Performance Database: The Office of Environmental Information (OEI) maintains historical files of OMB's written assessment of EPA's annual security program report.

Data Source: EPA's security staff, located within the Office of the Chief Information Officer (CIO), track Agency compliance with the OMB criteria.

Methods, Assumptions, and Suitability: N/A

QA/QC Procedures: OEI reviews, interprets, and verifies the basis for OMB's written assessment. Physical tests of Agency systems are conducted using best industry practice testing protocols. Automated monitoring tools test for and audit compliance with IT security standards. The Agency certifies results to OMB, but does not send detailed data from tests because of the sensitive nature of the information; inadvertent release of this information could compromise the Agency's information technology (IT) security infrastructure. EPA's IT planning staff, under the CIO, check for appropriate security planning and procedures as part of the Information Technology Management Reform Act (ITMRA) capital planning and investment process required by federal law.

Data Quality Reviews: Program offices are required to develop security action plans composed of tasks and milestones in a number of security action areas, including OMB's 13 criteria compliance areas. Program offices self-report progress toward these milestones. EPA's security staff reviews the self-reported data and discusses anomalies with the submitting office.

Data Limitations: Resources constrain the security staff's ability to validate all of the self-reported compliance data submitted by program systems' managers.

Error Estimate: N/A

New/Improved Data or Systems: NA

References: N/A

Performance Measure: Percent of intrusion detection monitoring sensors installed and operational.

Performance Database: Output measure. None

Data Source: Contractor task reports, verified by OEI.

Methods, Assumptions, and Suitability: NA

QA/QC Procedures: The Quality Assurance procedures are established in OEI's contractual agreements with IT security contractors responsible for monitoring the intrusion detection sensors. The procedures are a combination of automated and manual processes managed by independent contractors and validated by EPA personnel.

Data Quality Reviews: N/A

Data Limitations: Data reflect the contractor's completion of technical tasks that are easily verified by OEI. Thus, there are thus no serious data limitations.

Error Estimate: N/A

New/Improved Data or Systems: NA

References: N/A

Coordination with Other Agencies

EPA will continue to coordinate with other Federal agencies on IT infrastructure and security issues by participating on the Federal CIO Council. For example, EPA (along with the Department of Labor) recently co-chaired a Federal government committee on security. EPA will continue to participate on the CIO Council committees on security, capital planning, workforce development, interoperability, and e-Government, and will engage with other Federal agencies in ensuring the infrastructure for homeland security. EPA is a leader in many areas, such as E-dockets. EPA has a modern well-supported system that can host other Agencies' docket systems, thereby reducing their costs to develop or deploy such a system. EPA will also continue to coordinate with state agencies on IT infrastructure and security issues through state organizations such as the National Association of State Information Resources Executives. In addition, EPA, along with other Federal agencies, is involved in the OMB led e-government initiatives. As part of this effort, EPA, OMB, the Department of Transportation, and ten other Federal agencies are examining the expansion of EPA's Regulatory Public Access System, a consolidated on-line rule-making docket system providing a single point of access for all Federal rules. EPA is also coordinating efforts with the National Archives and Records Administration on an e-records initiative. This effort is aimed at establishing uniform procedures, requirements, and standards for electronic record keeping of Federal e-Government records.

Statutory Authorities

Federal Advisory Committee Act

Government Information Security Reform Action

Comprehensive Environmental Response, Compensation, and Liability Act

Clean Air Act and amendments

Clean Water Act and amendments

Environmental Research, Development, and Demonstration Act of 1981

Toxic Substance Control Act

Federal Insecticide, Fungicide, and Rodenticide Act

Food Quality Protection Act

Safe Drinking Water Act and amendments

Federal Food, Drug and Cosmetic Act

Emergency Planning and Community Right-to-Know Act

Comprehensive Environmental Response, Compensation, and Liability Act

Superfund Amendments and Reauthorization Act

The Government Performance and Results Act (1993)

Government Management Reform Act (1994)

Clinger-Cohen Act

Paperwork Reduction Act

Freedom of Information Act

Computer Security Act

Privacy Act

Electronic Freedom of Information Act

Pollution Prevention Act

Goal 8: Sound Science

Environmental Protection Agency
2004 Annual Performance Plan and Congressional Justification
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Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Sound Science, Improved Understanding of Env. Risk and Greater Innovation to Address Env. Problems

Strategic Goal: EPA will develop and apply the best available science for addressing current and future environmental hazards as well as new approaches toward improving environmental protection.

Resource Summary
(Dollars in thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Sound Science, Improved Understanding of Env. Risk and Greater Innovation to Address Env. Problems	\$323,203.3	\$327,837.9	\$357,105.8	\$29,267.9
Conduct Research for Ecosystem Assessment and Restoration.	\$110,817.6	\$119,114.6	\$122,885.5	\$3,770.9
Improve Scientific Basis to Manage Environmental Hazards and Exposures.	\$52,022.6	\$56,355.0	\$67,467.5	\$11,112.5
Enhance Capabilities to Respond to Future Environmental Developments.	\$61,427.7	\$50,965.8	\$68,911.4	\$17,945.6
Improve Environmental Systems Management.	\$54,429.8	\$52,274.1	\$45,446.9	(\$6,827.2)
Quantify Environmental Results of Partnership Approaches.	\$9,276.2	\$9,058.4	\$9,036.8	(\$21.6)
Incorporate Innovative Approaches.	\$26,070.7	\$29,787.9	\$31,939.0	\$2,151.1
Demonstrate Regional Capability to Assist Environmental Decision Making.	\$6,088.7	\$6,591.8	\$6,607.6	\$15.8
Conduct Peer Review to Improve Agency Decisions.	\$3,070.0	\$3,690.3	\$4,811.1	\$1,120.8
Total Workyears	992.2	996.3	1,006.2	9.9

Background and Context

EPA has a responsibility to ensure that efforts to reduce potential environmental risks are based on the best available scientific information. Strong science allows us to identify the most important sources of risk to human health and the environment as well as the best means to detect, abate, and avoid possible environmental problems, and thereby guides our priorities, policies, and deployment of resources. It is critical that research and scientific assessment be integrated with EPA's policy and regulatory activities. In order to address complex issues in the future, the Agency will design and test fundamentally new tools and management approaches that have potential for achieving environmental results. Under Goal 8, EPA conducts core research to improve our understanding of the fundamental principles underlying risk assessment and risk management.

Several mechanisms are in place to ensure a high-quality research program at EPA. The newly established Science Advisor will be responsible for ensuring the availability and use of the best science to support Agency policy and decisions, as well as advising the EPA administrator on science and technology issues and their relationship to Agency policies, procedures and decisions. The Research Strategies Advisory Committee (RSAC) of EPA's Science Advisory Board (SAB), an independent chartered Federal Advisory Committee Act (FACA) committee, meets annually to conduct an in-depth review and analysis of EPA's Science and Technology account. The RSAC provides its findings to the House Science Committee and sends a written report on the finding to EPA's Administrator after every annual review. Also, under the Science to Achieve Results (STAR) program all research projects are selected for funding through a rigorous competitive external peer review process designed to ensure that only the highest quality efforts receive funding support. In addition, EPA's scientific and technical work products must undergo either internal or external peer review, with major or significant products requiring external peer review. The Agency's Peer Review Handbook (2nd Edition) codifies procedures and guidance for conducting peer review.

Today's environmental innovations extend beyond scientific and technological advances; they also include new policies and management tools that respond to changing conditions and needs. Examples include market-based incentives that provide an economic benefit for environmental improvement, regulatory flexibility that gives companies more discretion in how specific goals are met, and disclosure of information about environmental performance. As a result of these and other innovations, the nation's environmental protection system is evolving. EPA's focus is on creating a system that is more efficient and effective and more inclusive of all elements of society.

Means and Strategy

EPA is continuing to ensure that it is a source of strong scientific and technical information, and that it is on the leading edge of environmental protection innovations that will allow achievement of our strategic objectives. The Agency consults a number of expert sources, both internally and externally, and uses several deliberative steps in planning its research programs. As a starting point, the Agency draws input from the draft Ecosystem Protection

Multi-year Plan, the EPA Strategic Plan, available research plans, EPA program offices and Regions, Federal research partners, and outside peer advisory bodies such as the Science Advisory Board (SAB) and others. Agency teams that prioritize research areas by examining risk and other factors such as National Science and Technology Council (NSTC) research, involved with development priorities, client office priorities, court orders, and legislative mandates use this input internally. EPA's research program will increase our understanding of environmental processes and our capability to assess environmental risks to both human health and ecosystems.

In the area of ecosystem protection research, EPA will strive to establish baseline conditions from which changes, and ultimately trends, in the ecological condition of the Nation's aquatic ecosystems can be confidently documented, and from which the results of environmental management policies can be evaluated at regional scales. This ability to demonstrate success or failure of increasingly flexible watershed management policies, regionally and nationally, is of great importance. Also in FY 2004, EPA's ecosystem protection research methods will continue to focus on Environmental Monitoring and Assessment Program (EMAP), which includes the National Coastal Assessment (Coastal 2000), Western EMAP, Central Basin, work in landscape ecology, and programs to develop and refine environmental indicators. These programs will provide water resource managers with tools necessary to measure status and trends in the condition of the Nation's rivers, streams, and estuaries and to measure the impacts of management decisions. This work is an important step toward providing the scientific understanding to measure, model, maintain, and restore the integrity and sustainability of ecosystems.

The Agency's leadership role in protecting both human and ecosystem health requires that the Agency continue to be vigilant in identifying and addressing emerging issues. EPA will continue to enhance its capabilities to anticipate, understand, and respond to future environmental developments. EPA will address these uncertainties by conducting research in areas that combine human health and ecological considerations. Continued research in the areas of endocrine disrupting chemicals and mercury is leading toward the development of improved methodologies for integrated human health and environmental risk assessment and sound approaches for risk management. While EPA has long benefited from studies needed to reduce, refine, and replace test methods, the Computational Toxicology program will enable EPA to demonstrate how to reduce the cost and use of animal testing to a far greater extent by prioritizing data requirements. In FY 2004, EPA will develop a computational toxicology research strategy that will help fill major data gaps for a large number of chemicals for testing programs and reduce the cost and use of animal testing. This work will improve the validity of existing and proposed chemical testing programs through computational toxicology research, which integrates modern computing with advances in genomics to develop alternatives to traditional animal testing approaches. EPA will also conduct research to enhance its capacity to evaluate the economic costs and benefits and other social impacts of environmental policies. These efforts, undertaken in concert with other agencies, will result in improved methods to assess economic costs and benefits, such as improved economic assessments of land use policies and improved assessments for the valuation of children's health, as well as other social impacts of environmental decision-making.

The Agency also seeks to characterize, prevent, and clean up contaminants associated with high-priority human health and environmental problems through the development and verification of improved environmental tools and technologies. EPA will incorporate a holistic approach to pollution prevention by assessing the interaction of multiple stressors that may threaten human health and environmental quality, and by developing cost-effective responses to those stressors. Research will also explore the principles governing sustainable systems and the integration of social, economic, and environmental objectives in environmental assessment and management. Emphasis will be placed on developing and assessing preventive approaches for industries and communities having difficulty meeting pollution standards. In a broader context, the pollution prevention research program will continue expanding beyond its traditional focus on the industrial sectors to other sectors (e.g., municipal) and ecosystems.

In FY 2004, EPA will improve its regulatory and policy development process. The Agency will strengthen the policy analysis and use of science supporting key regulatory and non-regulatory actions, improve the economic analysis underlying Agency actions, and improve the regulatory and policy action information management system.

EPA is continuing to ensure that it is a source of sound scientific and technical information, and that it is on the leading edge of environmental protection innovations that will allow achievement of our strategic objectives. Also, in FY 2004, EPA is requesting resources for the newly established Science Advisor. The Science Advisor will be responsible for ensuring the availability and use of the best science to support Agency policies and decisions, as well as advising the EPA administrator on science and technology issues and their relationship to Agency policies, procedures, and decisions. The Science Advisor's office will require a small cadre of senior staff to promote effective partnerships with EPA Programs and Regions, assist them in their efforts to strengthen environmental science, and provide for timely and open communication on critical science matters. In addition, the Agency consults a number of expert sources, both internal and external, and uses several deliberative steps in planning its research programs. As a starting point, the Agency draws input from the EPA Strategic Plan, available research plans, program offices and Regions, Federal research partners, and outside peer advisory bodies such as the Science Advisory Board (SAB) and others. The Agency is also taking a number of steps to attract and maintain a high quality, diverse scientific workforce. EPA will explore using existing personnel authority or seek new authority to recruit and retain talented research scientists that EPA might not otherwise be able to attract.

The Agency also seeks to develop and verify improved tools, methodologies, and technologies for modeling, measuring, characterizing, preventing, controlling, and cleaning up contaminants associated with high priority human health and environmental problems. In order to do this, EPA will develop, evaluate, and deliver technologies and approaches that eliminate, minimize, or control high-risk pollutants from multiple sectors. Emphasis will be placed on preventive approaches for industries and communities having difficulty meeting control/emission/effluent standards.

EPA's strategy for solving environmental problems and improving our system of environmental protection includes developing, implementing and institutionalizing new policy tools, collaborative community-based and sector-based strategies, and the capacity to experiment, test, and disseminate innovative ideas that result in better environmental outcomes. In each area, EPA is looking to advance the application of the innovative tool or approach by promoting broader testing into our system of environmental protection and to support collaborative partnerships for environmental management based upon prudent analysis and decision methodologies. For example, EPA's Sector Program Plan 2001-2005 sets forth a vision and specific actions to enhance the effectiveness of innovative sector activities (at the Federal and state levels) and to fully integrate sector approaches into the Agency's overall mission and core programs. Similarly, EPA is strengthening its capacity to evaluate innovative approaches and make institutional changes that adopt successful innovations.

EPA's community-based approach aims to provide integrated assessment tools and information and direct assistance for environmental protection in partnership with local, state, and Tribal governments. The work focuses on building the capacity of communities to work effectively at identifying and solving environmental issues in ways that support healthy local economies and improved quality of life.

Sector strategies complement current EPA activities by allowing the Agency to approach issues more holistically; tailor efforts to the particular characteristics of each sector; identify related groups of stakeholders with interest in a set of issues; link EPA's efforts with those of other agencies; and craft new approaches to environmental protection. EPA is building on successful experiences from its current sector-based programs such as the Sustainable Industries Partnership Programs, Design for the Environment, and sector-based compliance assistance programs to expand the ways in which the Agency is working in partnership with industry sectors to meet high environmental standards using flexible, innovative approaches. These innovative programs foster the development of innovations at the industry sector level, testing new regulatory ideas, technologies, tools, and incentives in non-adversarial settings. In a somewhat related effort, EPA is exploring the potential for broader use of a sector-based regulatory model for small businesses that was developed by Massachusetts.

Strategic Objectives

- **Conduct Research for Ecosystem Assessment and Restoration**
- **Improve Scientific Basis to Manage Environmental Hazards and Exposures**
- **Capabilities to Respond to Future Environmental Developments**
- **Improve Environmental Systems Management**
- **Quantify Environmental Results of Partnership Approaches**
- **Incorporate Innovative Approaches**
- **Demonstrate Regional Capability to Assist Environmental Decision Making**
- **Conduct Peer Review to Improve Agency Decisions**

Highlights

Research for Ecosystem Assessment and Restoration

In order to balance the growth of human activity with the need to protect the environment, it is important to understand the current condition of ecosystems, what stressors are changing that condition, what the effects are of those changes, and what can be done to prevent, mitigate, or adapt to those changes. In FY 2004, the Environmental Monitoring and Assessment Program (EMAP) will continue to be a major contributor to EPA's environmental indicators report and will be instrumental in improving state contributions to the Agency's bi-annual report to Congress on the condition of the Nation's waters. Included within EMAP is the Western EMAP (a.k.a. Western Pilot), which continues the study of streams in the Western U.S., and will begin focused studies in selected estuarine and near-shore sites. Regional EMAP projects (R-EMAP) in FY 2004 are high priority activities for Regional Offices because they will provide opportunities for EPA's Regions to test new technologies and work directly with state and academic partners. The Regional Vulnerability Assessment (ReVA) program further supports the needs of programs and Regions using information from EMAP and other sources to demonstrate an approach to Regional-scale assessment that efficiently informs decision-makers.

Another aspect of EMAP extends to the large rivers of the Mississippi River Basin (the Central Basin). Through cooperative programs with the Regions, states, Tribes, and other Federal agencies in the Central Basin, EPA proposes to fill remaining scientific gaps (indicators, sampling design, and sampling methodology) currently limiting our ability to measure the condition of large rivers. These approaches and technologies developed will be transferred to the many responsible parties to help inform environmental management decisions affecting these rivers as well as the Gulf of Mexico. Furthermore, landscape ecology research will focus on improving estimates of the effects of land-based stressors on aquatic, estuarine, wetland, terrestrial, and landscape conditions.

In FY 2004 the Agency will strengthen the initiative for Invasive Species Great Lakes research. The research will focus on developing innovative monitoring approaches and models to predict the spread of aquatic invasive species, and on identifying habitats and regions at risk to invasive species. Successful rapid response requires both early detection of new invaders and a prediction of their spread based on the patterns of invasion vectors (e.g., shipping) and the inherent vulnerability of different ecosystems to invasion. To date, monitoring for water quality (e.g., 305b Clean Water Act), early detection of invasive species, predicting the spread of invasive species, and predicting the vulnerability of ecosystems to invasions have largely been disjunct activities. The overall goal of this initiative is to develop integrated methods of detecting and predicting the spread of new invasive species introduced into the Great Lakes.

Research for Human Health Risk Assessment

In order to improve the scientific basis for identifying, characterizing, assessing, and managing environmental exposures that can pose the greatest health risks to the American public, EPA is committed to developing and verifying innovative methods and models for assessing the

susceptibilities of sub-populations, such as children and the elderly, to environmental toxins. Since many of the current human health risk assessment methods, models, and databases are based on environmental risks for adults, efforts under this goal are primarily aimed at enhancing current risk assessment and management strategies and guidance to better consider risk determination needs for children. In FY 2004, research will focus on reducing the uncertainty in EPA risk assessments for children through collection and analysis of data on children's exposures and identifying critical data gaps in conducting cumulative risk assessments. This information will be useful in determining whether children are more susceptible to environmental risks than adults and how to better assess potential risks to children.

EPA's Children's Health Research Program will continue to play a critical role in shaping how the Agency addresses children's environmental health issues. The Agency will work on guidance for conducting risk assessments for children. The guidance will address issues such as critical windows of vulnerability (by organ system and endpoint), mechanisms of action, and use of pharmacokinetic data and models in risk assessments. In 2004, EPA will complete an updated Child-Specific Exposure Factors Handbook to be used throughout the scientific community, including government, academia, and the private sector. EPA will also enhance its efforts in Asthma research. Research will examine the toxic effects of aldehydes and bioaerosols on children's lung function.

The Agency will continue its participation with the Department of Health and Human Services in the National Children's Study (NCS). In FY 2004, EPA will: 1) develop and test sampling methods for cost-effective measurement of environmental agents in air, water, soil, food, and indoor environments; 2) develop and test methods to collect biological samples from, and test for effects in, infants and children; 3) develop and test questionnaires that elicit information through questions, that are accurate surrogates of exposure and effects measurements; and 4) develop methods to identify highly-exposed and symptomatic individuals for over-sampling.

In FY 2004, EPA will complete a restricted-access database of EPA experts with knowledge, expertise, and experience to rapidly assess health and ecological impacts focused on safe buildings and rapid risk assessment as a part of the Agency's Homeland Security efforts. The goal of this effort is make available key EPA staff and managers who might be called upon to rapidly assess the impacts of a significant terrorist event.

Lastly, research in support of the Agency's annual State of the Environment Report will move EPA beyond its historic reliance on output indicators (e.g., decreased emissions/discharges; increased facilities in compliance) to more direct outcome measures (e.g., improved ecological conditions, reduced human exposures, reduced illness and disease).

Research to Enhance Environmental Decision Making

In recent years, EPA has begun to move beyond environmental regulation to anticipate and prevent potential problems before they evolve into major concerns. In FY 2004, research will focus on: 1) improving our understanding of the impacts of potential exposure to environmental pollutants, particularly endocrine disrupting chemicals (EDCs) and mercury; 2) human health and the environment; and 3) developing approaches to reduce human health and ecological risks. This research will result in accessible methodologies for combined human health and ecological risk assessments. New work in FY 2004 includes: Computational Toxicology to enhance the risk assessment process for EDCs; multi-pollutant research to support the reduction of atmospheric mercury emissions under the President's Clear Skies Initiative; and research to support the Report on the Environment.

The emerging sciences of genomics, computational methods, and bioinformatics have created a new opportunity to revolutionize the science used in chemical risk assessment. In FY 2004, EPA will produce a peer-reviewed Computational Toxicology Research Strategy describing how this program will provide the proof-of-concept for several EPA problems involving the testing requirements for endocrine disruptors and a complex class of new pesticides where cumulative risks are a concern. The overall goal of the computational toxicology research program is to develop more efficient approaches through integration of modern computing with advances in genomics to reveal the sequence of events by which aggregate and cumulative exposures to chemicals can cause adverse effects in humans and a large number of natural populations and to incorporate the use of these methods in risk assessments.

In FY 2004, the Agency's Clear Skies research will focus on mercury by collecting data at power plants to evaluate the performance of continuous emission monitors (CEMs) and initiate laboratory studies to improve EPA's understanding of atmospheric mercury fate and transport. This research will provide the science needed to reduce the uncertainties limiting the Agency's ability to assess and manage health risks from mercury and assist decision-makers in choosing the best technology to reduce mercury emissions.

EPA will also direct special grant solicitations to support research at Minority Institutions. This program specifically assists minority institutions in establishing and supporting environmental research activities that will build capacity to assess and solve environmental problems. Also, in FY 2004, EPA will fund Graduate fellowships to scientists across multiple disciplines, including the biological and physical sciences, mathematics, computer sciences, and engineering. Research completed under the fellowship program helps resolve uncertainties associated with particular environmental problems and focuses graduate research on priority research areas.

Research to Improve Environmental Systems Management

In FY 2004, the Agency will continue its systems-based approach to pollution prevention, which will lead to a more thorough assessment of human health and environmental risks and a more comprehensive management of those risks. Other research in this area will develop methodologies to better convey the social, economic, and environmental costs and benefits of reducing environmental risks. EPA will develop tools and methodologies to prevent pollution at its source and will evaluate environmental technologies through the Environmental Technology Verification (ETV) program. ETV is a voluntary, market-based verification program for commercial-ready technologies made up of stakeholders who represent diverse interests within the environmental arena. The goal of ETV is to verify the performance characteristics of private-sector-developed technologies so that purchasers, users, and permit writers have the information they need to make environmentally sound decisions. Technology verifications during FY 2004 will focus on advanced monitoring; air pollution control; greenhouse gas abatement; drinking water systems; and water protection. Additionally, through the National Environmental Technology Competition (NETC), EPA will recognize and reward innovative technologies that produce more effective and lower cost solutions to environmental problems. In FY 2004, EPA plans to develop competitive solicitations for cost-effective technologies to remove arsenic from drinking water to help small communities meet the new arsenic drinking water standard.

Regulatory and Policy Development

EPA will continue to improve its regulatory and policy development process by strengthening the policy analysis of key regulatory and non-regulatory actions, improving the economic analysis underlying Agency actions, improving the regulatory and policy action information management system, and creating innovative strategies to assist states in solving environmental problems.

Increased Community-Based Approaches

The Agency will continue to implement Regional Geographic Initiatives (RGI) which enable EPA Regional offices to partner with states, local governments, private organizations, and others to solve environmental problems that are of particular local concern to the Regions and states.

Science Advisory Board Peer Review and Consultations

In FY 2004, the Agency will increase its support for activities, principally peer reviews, of the SAB, which aims to provide independent technical advice to Congress and the Administrator on scientific, engineering, and economic issues that serve as the underpinnings for Agency positions, from research direction to regulations. The SAB helps the Agency to "do the right science" and to use the results of that science appropriately and effectively in making regulatory decisions. In so doing, the SAB aims to promote sound science within the Agency

and a wider recognition of the quality of that science outside the Agency. In this regard, the SAB is active in consulting with the Agency on how to incorporate science appropriately and effectively into the new approaches the Agency is using to make environmental decisions.

External Factors

Strong science is predicated on the desire of the Agency to make human health and environmental decisions based on high-quality scientific data and information. This challenges the Agency to perform and apply the best available science and technical analyses when addressing health and environmental problems that adversely impact the United States. Such a challenge moves the Agency to a more integrated, efficient, and effective approach of reducing risks. As long as sound science is a central tenant for actions taken by the Agency, then external factors will have a minimal impact on the goal.

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Sound Science, Improved Understanding of Env. Risk and Greater Innovation to Address Env. Problems

Objective: Conduct Research for Ecosystem Assessment and Restoration.

Provide the scientific understanding to measure, model, maintain, and/or restore, at multiple spatial scales, the present and future integrity of highly valued ecosystems.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Conduct Research for Ecosystem Assessment and Restoration.	\$110,817.6	\$119,114.6	\$122,885.5	\$3,770.9
Environmental Program & Management	\$7,157.6	\$5,960.1	\$7,801.4	\$1,841.3
Hazardous Substance Superfund	\$0.0	\$21.6	\$2.1	(\$19.5)
Science & Technology	\$103,660.0	\$113,132.9	\$115,082.0	\$1,949.1
Total Workyears	350.0	350.9	346.6	-4.3

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Coastal Environmental Monitoring	\$7,325.3	\$7,671.2	\$7,801.1	\$129.9
Congressionally Mandated Projects	\$7,770.9	\$0.0	\$0.0	\$0.0
Ecosystems Condition, Protection and Restoration Research	\$66,707.9	\$67,202.1	\$68,407.6	\$1,205.5
Environmental Monitoring and	\$32,360.0	\$38,259.6	\$38,873.3	\$613.7

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Assessment Program, EMAP				
Facilities Infrastructure and Operations	\$5,320.2	\$4,963.5	\$5,651.4	\$687.9
Homeland Security-Preparedness, Response and Recovery	\$65.5	\$0.0	\$0.0	\$0.0
Management Services and Stewardship	\$1,044.9	\$1,018.2	\$1,793.4	\$775.2
Planning and Resource Management	\$0.0	\$0.0	\$358.7	\$358.7

FY 2004 Request

The nation's ecosystems provide valuable services to the public, such as air and water purification, flood control, food, and raw materials for industrial processes, as well as multiple recreational benefits. Many human activities alter or damage ecosystems and their ability to provide these goods and services. To balance environmental sustainability with the growth of human activity, it is important to understand the condition of ecosystems, the stressors changing that condition, the consequences of those changes, and the consequences of preventing, mitigating, or adapting to those changes. EPA's ecological research program has four primary areas of emphasis: 1) ecological condition; 2) ecological diagnosis; 3) ecological forecasting; and 4) ecological restoration. In order to provide focus to this research, EPA's ecological research program builds upon the Agency's 1997 Ecological Research Strategy. This strategy is supplemented by the draft Ecosystem Protection Multi-year Plan and helps EPA focus efforts on environmental problems that pose the greatest risks and provides a framework for integrating research across laboratories and centers and across GPRA goals. To ensure quality, all scientific and technical work products undergo either internal or external peer review, with major or significant products requiring external peer review. Activities under the ecosystem protection program include: the Environmental Monitoring and Assessment Program (EMAP), the National Coastal Assessment (Coastal 2000), Western EMAP, the Central Basin Integrated Assessment, the Regional Vulnerability Assessment (ReVA), landscape sciences, and environmental indicators.

Ecological Condition Research

EPA's ecological condition research efforts consist, in large part, of the various components of the Environmental Monitoring and Assessment Program (EMAP). EMAP focuses on the monitoring science required to develop EPA's capability to measure trends in freshwater and marine ecosystem health. EMAP research efforts are guided by the EMAP

Research Strategy, published in 2001. EMAP includes the National Coastal Assessment (NCA), Western EMAP, the Central Basin Integrated Assessment, work in landscape ecology, and programs to develop and refine environmental indicators. Under the National Coastal Assessment program, EPA is partnering with 24 marine coastal states and Puerto Rico, the U.S. Geological Survey (USGS), and the National Oceanic and Atmospheric Administration (NOAA) to conduct the sampling of estuaries using probabilistic sampling methods. As a result of this sampling the condition of near-shore coastal ecosystems will be determined and a report drafted in FY 2004 on the condition of coastal ecosystems in the western U.S. The Western EMAP (a.k.a. Western Pilot) study will also continue as a primary activity of EPA's monitoring research. This study has four areas of focus: 1) the landscape atlas for western states; 2) intensive study of three watersheds (Columbia River basin, Missouri River basin, and San Francisco Bay region); 3) Pacific coast monitoring; and 4) a western-wide stream survey. In FY 2004 the Western Pilot will continue with the study of streams in the western U.S. and will continue focused studies in selected estuarine and near-shore sites. These two programs will provide water resources managers with the tools necessary to measure status and trends in the condition of the nation's streams and estuaries and to measure the impacts of management decisions.

EPA is also refining and extending the EMAP approach to large rivers in the Mississippi River Basin (the Central Basin). Central Basin rivers are challenged by long-term loadings of nutrients, sediments and toxic chemicals as well as extensive habitat alterations. The resulting inputs to the Gulf of Mexico are a significant contributor to causes of hypoxia, loss of wildlife habitat, and water quality concerns. In FY 2004 EPA will begin the first full year of monitoring to measure the condition of these large rivers. EPA will also conduct sampling on the upper Missouri River and seek to develop partnerships with states and other federal agencies in order to develop an integrated basin monitoring approach in the Central U.S. Data from such monitoring can help inform environmental management decisions regarding these rivers, and provide support to managers in establishing total maximum daily loads and meeting water quality standards. In addition, there are important scientific linkages between the Central Basin effort and proposed watershed mitigation and management efforts. The health of these large rivers is linked to the conditions of small streams, and ultimately their watersheds. Determining the condition of large rivers and understanding the processes occurring in the watersheds will be important for diagnosing the causes of impaired conditions in these river systems.

Landscape ecology research focuses on improving estimates of the effects of land-based stressors on aquatic, estuarine, wetland, terrestrial, and landscape conditions. It also extends the EMAP probability sampling design to estimate conditions of ecological resources across the West through the application of spatially-distributed models. Landscape characterization research includes: 1) planning and generating land characteristic databases for determining current conditions and change (land cover and other spatial databases); 2) continuing remote sensing research and developing high resolution imagery applications to document changes in land cover over time; and 3) quantifying relationships between landscape metrics and specific parameters. This research will significantly improve EPA's ecological monitoring and assessments, as well as risk management decisions, and will reduce uncertainty in other high

priority research programs. The Landscape Sciences Program is contributing a national assessment of riparian habitat conditions to the Committee on Environmental and Natural Resources' (CENR) National Environmental Report. This report will fit into the framework for conducting a national landscape assessment by the year 2008.

Environmental indicators research will focus on: 1) development of the next generation of biological indicators to characterize ecosystem condition and diagnose exposure to specific stressors; 2) application of these indicators to the monitoring of aquatic ecosystems; and 3) interpretation of the indicators in ecological risk assessments. These indicators include new condition indicators (e.g., genetic diversity of aquatic species) and new multi-metric methods (e.g., prototype indicators for deep rivers) to assess aquatic ecosystem population and community integrity. In FY 2004 new ecological indicators, including genetic and landscape, will be developed and evaluated using EPA's Indicator Guidelines. Also, prototype indicators of condition for deep river fish and population genetics data will be developed, which are unique to ecological integrity studies. This will provide inherent measures of population fitness and sustainability, which can be associated with historic or anthropogenic stresses. The research will include the use of DNA microarray technology to develop highly specific and sensitive diagnostic indicators of exposure to chemical stressors for which no current measures of bioavailability exist (e.g., pesticides). This technology will be used to develop methods capable of simultaneous measurement of the bioavailability of several chemical stressors to aquatic species exposed to mixtures.

Ecological Diagnosis Research

Diagnosis Research (i.e., process and modeling) addresses biological, chemical, and physical processes affecting the condition of ecosystems and their responses to stressors. This modeling allows for predictions of future landscapes, stressor patterns, ambient conditions, and receptor responses. Predicting the impact of changes in conditions allows resource managers to address problems in ways that will more effectively achieve their environmental protection goals.

Since measurements are not feasible in every watershed because of cost and other practical constraints, landscape indicators offer an efficient means to detect change, measure watershed level stressors, and quantify relationships between landscape metrics and specific parameters. A new generation of wall-to-wall spatial data (e.g., Multi-Resolution Landscape Characterization land cover data, North American Landscape Characterization historical landscape data), and advances in geographic information systems (GIS) make it possible to evaluate the compositional and spatial pattern of landscape characteristics. Using this information, local, state and Federal managers can diagnose causes and forecast future conditions in a scientifically defensible fashion to more effectively protect and restore valued ecosystems. Landscape ecology research efforts will result in a national assessment of landscape change between the early 1970's and early 2000's, evaluation of the consequences of these changes on aquatic resources, and development of national assessments of riparian habitat conditions. Additional research in FY 2004 will focus on habitat distribution data needed for enhanced

capabilities to measure how wildlife habitat is distributed at the appropriate resolution for spatially-explicit risk assessment.

EPA will also conduct research to address the effects of excess nitrogen from atmospheric or other sources and aquatic ecosystems, including the development of models that predict the loading-response relationships for nitrogen in aquatic habitats and improved knowledge of the biogeochemical processes controlling nutrient processes in watersheds. Such models can be used for stressor source apportionment and for the assessment of management and mitigation strategies. In addition, deposition of nitrogen, along with other atmospheric stresses such as sulfur, will be monitored throughout the northeastern U.S. to continue to evaluate the effectiveness of existing regulations on the control of the major constituents of acid rain and the recovery of impacted streams, rivers, and lakes. Additional research will include investigation into the fate, behavior, and effects of natural organic nitrogen and controls on the mobility and availability of phosphorous.

Other ecological process and modeling research will include the development of approaches for evaluating relative risks from chemical and nonchemical stressors on fish and wildlife populations across large areas or regions. Research in this area will improve the ability to perform retrospective (diagnostic) and prospective (forecasting) assessments of risks to biota as determined by the spatial distribution of habitat quality and stressors (e.g., toxic chemicals, nutrients, disease, invasive species) in the landscape. Research results can be used to describe habitat requirements for wildlife and to manage watersheds to achieve and maintain desired ecological conditions, using biological indicators and metrics to determine the condition of aquatic ecosystems. In FY 2004, EPA will provide environmental managers with a prototype multimedia modeling system for small watershed scale contaminated site assessments, such as those addressed by the Resource Conservation and Recovery Act (RCRA), Superfund, the Clean Air Act (CAA), and the Clean Water Act (CWA). This multimedia modeling system will be used for model selection, integration, and execution and provide guidance for incorporating environmental and chemical data, chemical fate/effects process models, and ecosystem models for the development of site specific remediation options. This research supports the Administration's priority for Networking and Information Technology Research and Development.

Ecological Forecasting Research

EPA's ecological forecasting research (i.e., risk assessment) addresses the risk posed to ecosystems by stressors, alone and in combination, now and in the future. Ecological assessments can link stressors with consequences and evaluate the potential for damage to particular ecosystems, and can be used to compare the relative risks associated with different stressors, regional areas, and ecosystems. This research is developing tools to enable environmental risk managers at local, state, and Federal levels to identify priority sensitive ecosystems.

The completion of the Mid-Atlantic Integrated Assessment (MAIA) in FY2002 provided baseline information on the current status of most resources in the region. Continuing research in FY 2004 will build on MAIA and other data to project future environmental conditions in the region so that risk management activities can be targeted proactively. The Regional Vulnerability Assessment (ReVA) project, begun in FY 2000, will continue to combine modeled projections of changes in stressors (e.g., pollution deposition, land use change) with information on sensitive ecosystems in order to identify: 1) the greatest environmental risks likely to arise in the next 5-25 years, and 2) where those risks are likely to occur.

The ReVA project continues to show that invasive species are major stressors on ecological resources and will pose significant threats in the future. Thus, in FY 2004, the Agency will strengthen the initiative for Invasive Species Great Lakes research. The research will focus on developing innovative monitoring approaches and models to predict the spread of aquatic invasive species, and on identifying habitats and regions at risk to invasive species. Successful rapid response requires both early detection of new invaders and a prediction of their spread based on the patterns of invasion vectors (e.g., shipping) and the inherent vulnerability of different ecosystems to invasion. To date, monitoring for water quality (e.g., 305b Clean Water Act), early detection of invasive species, predicting the spread of invasive species, and predicting the vulnerability of ecosystems to invasions have largely been disjunct activities. The overall goal of this initiative is to develop integrated methods of detecting and predicting the spread of new invasive species introduced into the Great Lakes. Achieving this goal will require coordination among researchers in several different fields, federal, state, and local regulatory agencies, and NGOs. To foster this coordination and to better refine which potential invaders and invasion models to focus the subsequent research on, a workshop will be held in FY 2004. The workshop shall be held in the Great Lakes region with the objective of developing a draft strategy. This research strategy will guide the Agency's research efforts to develop integrated monitoring approaches for new invaders and develop the models to predict their spread.

Ecological Restoration Research

EPA's risk management and restoration research focuses on the options available to manage the risks to, and restoration of, degraded ecosystems. The growth rate of the man-made environment necessitates development of cost-effective prevention, control, and remediation approaches for sources of stressors and adaptation approaches for ecosystems. These technologies will diagnose ecosystem restoration needs, evaluate progress toward restoration, and establish ecologically relevant goals and decision support systems for state and community planners. EPA is developing integrated restoration technologies which focus on: 1) rehabilitating, to the extent possible, the structure of watershed ecosystems (e.g., restoring riparian zones); 2) reducing the perceived stressors (e.g., cleaning up contaminated sediments); and 3) enhancing the natural resilience of the system. EPA will also develop tools to assess the progress, effectiveness, and cost of candidate restoration technologies, including the development of methods for evaluating negative or unexpected impacts of the restoration technology. Utilizing this research, local, state and Federal managers can protect and restore aquatic ecosystems using scientifically defensible methods. This research will also be

incorporated into restoration protocols to allow more uniform approaches to determining effectiveness and cost, which will relate to potential results in public benefits. Additional research in FY 2004 will address sediment transport and Best Management Practices (BMPs) to evaluate and identify sediments as a primary impairment to streams. Additional efforts will also focus on constructing wetlands as restoration tools, and interception zones for watershed stressors.

EPA Science Advisor

In FY 2004, EPA is requesting resources to support the Science Advisor. The Science Advisor will be responsible for ensuring the availability and use of the best science to support Agency policies and decisions, as well as advising the EPA Administrator on science and technology issues and their relationship to Agency policies, procedures, and decisions. The Science Advisor's office will require a small cadre of senior staff to promote effective partnerships with EPA Programs and Regions, assist them in their efforts to strengthen environmental science, and provide for timely and open communication on critical science matters.

FY 2004 Change from FY 2003 Request

S&T

- (+\$1,270,000) These resources will be used to strengthen core research efforts in ecological diagnosis research (i.e., process and modeling), which will address how biological, chemical, and physical processes affect the condition of the ecosystems; and ecological restoration research will identify how to effectively reduce risks to protect ecosystems and restore them once they have become degraded.
- (+\$806,800, +6.0 FTE) This increase is a redirection of 1.0 FTE from Goal 2, Objective 2 (water quality) and a reorientation of 5 workyears within Goal 8, Objective 1 to support the Agency's FY 2003 initiative to assess the condition of large rivers in the Central Basin. The approaches and technology developed will be transferred to the many responsible parties within the Basin to enable coordinated, scientifically defensible, long-term monitoring. These redirections will not cause significant impacts.
- (+\$1,160,300, +3.5 FTE) These resources will support the newly established EPA Science Advisor. Three of the workyears are being redirected from within this Objective and from Objective 3 Goal 2 (Watersheds and Aquatic Communities), while the remaining workyears will be part of the Agency's effort to enhance its scientific workforce by attracting first-rate postdoctoral scientists and engineers into its research program. The Science Advisor will be responsible for ensuring the availability and use of the best science to support Agency policies and decisions, as well as advising the Administrator on science and technology issues and their relationship to Agency policies, procedures, and decisions.

- (+\$462,340, +2.2 FTE) Workyears and associated costs supporting landscape ecology research and assessment activities are being realigned from Global Change Research Goal 6, Objective 2 and consolidated in Goal 8, Objective 1, Ecosystems Research. There is no programmatic impact.
- (+\$500,000) This increase for the Invasive Species research will focus developing innovative monitoring approaches and models to predict the spread of aquatic invasive species, and on identifying habitats and regions at risk to invasive species in the Great Lakes region.
- (-\$1,343,400, -7.0 FTE) Resources are being redirected from research on ecosystem assessment and restoration to fund the Agency's initiative in Computational Toxicology in Goal 8, Objective 3 (Enhanced Capabilities to Respond to Future Environmental Development). This will cause slight delays in the work on integration of ecological models with multimedia fate and transport models, and will slightly delay the development of tools necessary to manage multiple stressors at the watershed scale.
- (-\$943,600) Resources are being redirected to support research on indicators of ecosystem health and water quality in Waste Management (Goal 5). This includes relatively minor reductions to a number of areas within the ecosystem research program. For example, some of the work to develop a set of ecological and socioeconomic indicators will be reduced. The impact will be mitigated by the fact that some of the redirected resources will continue to support related work.
- (-\$701,000, -5.0 FTE) This reflects a reorientation within the EMAP program to support the Central Basin integrated assessment.
- (-\$323,020, -3.1 FTE) This reflects a realignment of research support workyears to Goal 2, Objective 2. There are no programmatic impacts.
- (-\$248,600, -2.0 FTE) This reflects a realignment of regulatory support workyears to Goal 8, Objective 3 to better reflect the multimedia nature of this effort.
- (-\$262,080, -2.6 FTE) These workyears are being redirected from research on ecosystem assessment and restoration to support the Agency's Homeland Security efforts in the area of Rapid Risk Assessment and Water Security. This will cause slight delays in the work on integration of ecological models with multimedia fate and transport models, and will slightly delay the development of tools necessary to manage multiple stressors at the watershed scale.

EPM

- (+\$1,134,400, +3.2 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: SOUND SCIENCE, IMPROVED UNDERSTANDING OF ENV. RISK AND GREATER INNOVATION TO ADDRESS ENV. PROBLEMS

OBJECTIVE: CONDUCT RESEARCH FOR ECOSYSTEM ASSESSMENT AND RESTORATION.

Annual Performance Goals and Measures

Research

Regional Scale Ecosystem Assessment Methods

In 2004 Provide Federal, state and local resource managers with a means to more effectively determine long-term trends in the condition and vitality of Eastern U.S. stream ecosystems through measurements of changes in the genetic diversity of stream fish populations.

Performance Measures:

FY 2002
Actuals

FY 2003
Pres. Bud.

FY 2004
Request

A study of fish genetic diversity that demonstrates the power of this emerging technology for evaluating condition and vitality of biotic communities to Federal, state and local resource managers.

1 report

Baseline:

The development and application of new and more powerful methods to evaluate ecological integrity is central to many state and Federal assessment programs, including EPA's Environmental Monitoring and Assessment Program (EMAP) and Regional Vulnerability Assessment (ReVA) program. Technological progress in the fields of molecular biology and genetics have allowed, for the first time, the cost-effective analysis of patterns in the genetic diversity of aquatic populations over large regional scales. This genetic information brings new and powerful information to our understanding of aquatic ecosystems, including the identification of appropriate ecological assessment units, the linkages between environmental condition and population responses, and estimates of the future susceptibility of populations due to loss of genetic diversity. In FY 2004, a report will be prepared that summarizes the results of research on the genetic diversity of indicator fish species inhabiting wadeable streams in EMAP's Mid-Atlantic Integrated Assessment (MAIA) area, as well as in parts of Ohio that were evaluated as part of a regional EMAP assessment. This report will provide resource managers and the public with a more complete understanding of the present condition of these biological resources and their vulnerability to predicted environmental changes.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: A study of fish genetic diversity that demonstrates the power of this emerging technology for evaluating condition and vitality of biotic communities to Federal, state and local resource managers.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: Report

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

Coordination with Other Agencies

Research in ecosystems protection is coordinated government-wide through the Committee on Environment and Natural Resources (CENR). It is the unique mission of EPA to look beyond specific resource management responsibilities such as those assigned to other agencies like the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service, U.S. Department of Agriculture's (USDA) Forest Service, and the Department of the Interior's (DOI) Fish and Wildlife Service (USFW) and Bureau of Land Management, and to protect the whole environment, accounting for both public and private sources of adverse ecological effects. EPA has been an active participant in the CENR, and all work in this objective is fully consistent and complementary with other Committee member activities.

EPA researchers work within the CENR on EMAP and other ecosystems protection research. The Mid-Atlantic Landscape Atlas was developed in cooperation with NOAA, USFW, the University of Tennessee, and the U.S. Department of Energy's (DOE's) Oak Ridge National Laboratory. Development of the Networking and Information Technology Research & Development (NITR) Modeling System is coordinated with the Army Corps of Engineers (USACE), USDA, and DOE. EPA cooperates with the CENR's Subcommittee on Ecological Systems, in the restoration of habitats and species, impacts of landscape change, invasive species and inventory and monitoring programs. A draft Ecological Research Strategy underwent

interagency peer review by the Committee on Environmental and Natural Resources (CENR) in June 1997 and external peer review by the Science Advisory Board's Ecological Processes and effects Committee (SAB-EPEC) in July 1997. The strategy was revised in response to SAB-EPEC suggestions and interagency comments, and the final document was published in June 1998.

EPA is working through interagency agreements with the USACE on the development of tools for the management of stressors in reservoir and lake watersheds and the establishment of an approach for the development of decision support systems to manage these types of ecosystems. Through interagency agreements with the U.S. Geological Survey (USGS), EPA has worked to investigate and develop tools for assessing the impact of hydrogeology on riparian restoration efforts. This work also focuses on development of tools for the dispersal modeling of invasive species, the evaluation of the effectiveness of restoration efforts to reconnect groundwater and surface water hydrology, and the establishment of zones of denitrification within impaired streams. The collaborative work with the USGS continues to play a vital role in investigating the impact and fate of atmospheric loadings of nitrogen and nitrogen applications as part of restoration technologies on terrestrial and aquatic ecosystems. All of these efforts have significant implications for risk management in watersheds, total maximum daily load (TMDL) implementation, and management of non-point source pollutants.

Additional interagency grants programs in Ecology include: the Ecology and Oceanography of Harmful Algal Blooms (EcoHAB) program with NOAA, NSF, DOD, and NASA; nutrient science for watershed management with USDA; and the Estuarine and Great Lakes (EAGLES) program with NASA.

Statutory Authorities

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

Toxic Substances Control Act

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

Resource Conservation and Recovery Act (RCRA)

The Clean Air Act Amendment

The Safe Drinking Water Act

Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)

Clean Water Act (CWA) Title I (33 U.S.C 1251-1271)

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Sound Science, Improved Understanding of Env. Risk and Greater Innovation to Address Env. Problems

Objective: Improve Scientific Basis to Manage Environmental Hazards and Exposures.

Improve the scientific basis to identify, characterize, assess, and manage environmental hazards and exposures that pose the greatest health risks to the American public by developing models and methodologies to integrate information about exposures and effects from multiple pathways. This effort includes focusing on risks faced by susceptible populations, such as people differentiated by life stage (e.g., children and the elderly) and ethnic/cultural background.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Improve Scientific Basis to Manage Environmental Hazards and Exposures.	\$52,022.6	\$56,355.0	\$67,467.5	\$11,112.5
Environmental Program & Management	\$3,409.1	\$2,937.3	\$3,663.1	\$725.8
Science & Technology	\$48,613.5	\$53,417.7	\$63,804.4	\$10,386.7
Total Workyears	172.6	176.0	180.4	4.4

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Congressionally Mandated Projects	\$731.3	\$0.0	\$0.0	\$0.0
Endocrine Disruptor Research	\$369.3	\$372.2	\$378.9	\$6.7
Facilities Infrastructure and Operations	\$2,656.7	\$2,505.1	\$2,979.1	\$474.0

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Homeland Security-Preparedness, Response and Recovery	\$360.1	\$0.0	\$8,560.6	\$8,560.6
Human Health Research	\$47,225.6	\$51,824.5	\$53,633.9	\$1,809.4
Legal Services	\$51.0	\$54.8	\$57.2	\$2.4
Management Services and Stewardship	\$410.7	\$377.4	\$596.4	\$219.0
Planning and Resource Management	\$0.0	\$0.0	\$30.4	\$30.4
Research to Support FQPA	\$1,217.0	\$1,221.0	\$1,231.0	\$10.0

FY 2004 Request

EPA's human health research program is based on the assumption that major uncertainties in risk assessment can be reduced through a better understanding of the fundamental determinants of exposure and dose and the basic biological changes that result from one or more exposures to one or more chemicals. Historically, EPA focused its human health risk management decisions and regulations on single environmental pathways and individual contaminants. Often, environmental legislation mandated this approach. In recent years, however, advances in the state of environmental science have illustrated that new risk assessment methods are needed to investigate complex environmental and human health issues that were not contemplated by early environmental statutes.

There are many uncertainties associated with the risk assessment process because of severe limitations in available data and the complex interactions between the sources and environmental concentrations of contaminants, human exposures to these contaminants, and relationships between human exposure, dose, and response. These uncertainties frequently result in the use of default assumptions and uncertainty factors in risk assessments. EPA's human health research program addresses these data limitations in an attempt to reduce reliance on default assumptions. The measurement-derived tools (databases, methods, models, and protocols) developed through this program will strengthen the scientific foundation for human health risk assessment.

This goal is supported by multiple long-range research planning documents, including: 1) the draft Human Health Research Strategy, 2) the Research Strategy on Environmental Risks to Children; 3) the Asthma Research Strategy; and 4) the Draft Multi-Year Plan for Human Health Risk Assessment. These long-term strategies and planning documents allow EPA to improve the scientific basis to identify, characterize, assess, and manage environmental exposures that pose the greatest health risks to the American public. In the context of performance (or program

outcomes), the Government Performance and Results Act (GPRA) requires federal organizations to establish and publish performance goals in an Annual Performance Plan and report on the extent to which they achieve those goals in Annual Performance Reports. The Human Health Research Program is also subject to the requirements of GPRA.

In FY 2004, human health research will be conducted under three activities: 1) development of multimedia, multipathway exposure methods and models; 2) development of mechanistically-based data, tools, and approaches; and 3) development of innovative methods and models for assessing risks to susceptible sub-populations. These three themes are further partitioned into a series of targeted programmatic areas, which are discussed in further detail below.

Multimedia, Multipathway Exposure Methods and Models

EPA is committed to filling critical data gaps that reduce reliance on default assumptions and improves the risk assessment process. One key way to accomplish this goal is by developing models to assess, predict, and diagnose the population distribution of multimedia, multipathway exposures to major classes of environmental agents. Research activities in this area will address substantial uncertainties that exist in human health risk assessment and thereby improve the scientific basis for assessing and managing risks.

Through the exposure research program, EPA will develop methods, measurement data, and measurement-derived models that estimate source emission, aggregate and cumulative exposures and source-exposure-dose relationships for contaminant mixtures to which the general population, children, and other susceptible populations are exposed daily. Research will continue to focus on developing, evaluating, and enhancing multimedia, multipathway exposure modeling modules, which are key devices in linking environmental concentrations with human actions to estimate real-world exposures. Other research will look at exposure-dose modeling to describe the uptake of pollutants into the body and the distribution of pollutants throughout the body. These models provide the essential linkage between regional environmental or micro-environmental models and the corresponding dose-response models designed by toxicologists.

EPA also conducts exposure research through relatively large-scale exposure measurement studies such as the National Human Exposure Assessment Survey (NHEXAS), the Children's Total Exposure to Pesticides and Other Persistent Pollutants (CTEPP), and other related exposure measurement programs, which integrate measurements and modeling to investigate critical information gaps about targeted sub-populations and population-scale distributions of exposures to contaminant mixtures. In FY 2004, the Agency will compare and evaluate new data on exposure factors and develop updated recommendations for assessment. EPA will use this new data - from surveys such as CTEPP, NHEXAS, and the National Health and Nutrition Examination Survey (NHANES) - to analyze issues such as use of short-term data for longer-term estimates and uncertainties introduced by the use of data collected for other purposes.

In FY 2004, a major population-based field study that focuses on children's aggregate exposure to pesticides and other selected toxics in homes, day care centers and schools will continue. This study will be completed in 2005 with delivery of major products in the 2005 – 2007 timeframe. Study results will be used to:

- Evaluate and refine a protocol for measuring aggregate exposure for children of different age groups;
- Verify those pathways and activities that represent the highest exposures to children;
- Generate high quality distributional data on exposure concentrations, estimated exposures, and exposure factors;
- Develop a children's exposure measurements data base for model development, evaluations, refinement, and risk assessments;
- Develop a measurement database for model evaluations and risk assessments; and
- Provide input into the design and implementation of the National Children's Study (NCS).

The field study will develop essential information for improving models that represent dermal uptake and exposure, dietary exposure and gastrointestinal uptake, and aggregate exposure. Researchers within EPA, the scientific community, and the pesticide and chemical industry, will use the final protocol to develop high quality data on exposure and exposure factors mandated by the Food Quality Protection Act.

Mechanistically-based Data, Tools, and Approaches

There is a lack of understanding about the underlying biological, chemical, and physical processes that determine target tissue exposures and effects, which limits the Agency's ability to assess potential health risks of environmental exposures. Insufficient knowledge of these processes introduces uncertainties into the risk assessment process that may allow for wide interpretation of what is often limited data. Research in this area addresses both qualitative (hazard identification) and quantitative (dose-response analysis) concerns associated with current risk assessments.

In order to reduce uncertainties in the risk assessment process, health effects research will continue to focus in two areas: harmonization of risk assessment approaches and chemical mixtures. Research to harmonize risk assessment approaches will yield a consistent set of principles and guidelines for drawing inferences from scientific information, including the need for consistent application of all pertinent information on toxicity, dosimetry, and mode-of-action in all risk assessments.

Research on chemical mixtures will focus on understanding mechanisms or modes-of-action chemicals and how they interact in mixtures. A key research concern is the possibility that chemicals in mixtures may interact in a non-additive manner. The overall approach will be to identify key biological processes that could be used in testing for various health endpoints and determining effects of chemicals based on their mechanism or mode of action and environmental relevance. Studies focus on dose-response curves for chemicals in isolation and testing for evidence of antagonism, potentiation, or synergism with other chemicals in mixture.

Health effects research on susceptible populations will focus on the influence of genetics and health status on susceptibility to chemical exposures. The principal hypothesis of the research on susceptible sub-populations is that differences among individuals (inter-individual) as well as the variability in an individual's responses over time (intra-individual) are due to biological variability. Information is needed on how various susceptibility factors alter responses to chemical exposures. The overall goal of effects research is to develop improved risk assessment methods for evaluating selected sub-populations.

Susceptible Sub-populations

EPA is committed to developing and verifying innovative methods and models for assessing the susceptibilities of sub-populations to environmental agents and enhancing current risk assessment and risk management strategies and guidance.

The Nation is experiencing a major demographic shift (from young to old) and as the population ages, older Americans may become more susceptible to environmental toxins. Our normal aging process presents unique challenges because our organs and immune system experience a decline in function, and our ability to metabolize or eliminate toxins changes. In FY 2004, in a collaborative effort amongst various EPA Programs Offices, the Agency will launch a National Aging Initiative – led by EPA's Office of Children's Health Protection. EPA's Office of Research and Development will play a critical role in this initiative by identifying and evaluating the unique susceptibilities of the elderly and looking at environmental hazards that affect the health of older persons. Research will also look into how an aging society will impact the environment (e.g., water usage in select regions of the country, issues of disposal associated with antibiotics).

EPA's Children's Health Research Program will continue to play a critical role in shaping how the Agency addresses children's health issues. Much of the effort under the Children's Health Research Program is based on EPA's Strategy for Research on Environmental Risks to Children, which provides direction for research in age-related exposures, physiology, biological responses that may result in increased risks, and risk reduction methods. This research provides the scientific underpinnings that will result in better EPA risk assessments for children and ultimately reduced risks from potential environmental health threats.

As noted above, in FY 2004, a major population-based field study that focuses on children's aggregate exposure to pesticides and other selected toxics in homes, day care centers and schools will continue. This study will provide better understanding of the critical factors influencing very young children's exposures.

The Asthma Research Strategy, released in October 2002, will also play a critical role in meeting EPA's objectives under the human health research program. The Asthma Strategy discusses research efforts aimed at addressing the following issues:

- Susceptibility factors contributing to asthma (e.g., genetics, health status, socioeconomic status, residence and exposure history, and lifestyle and activity patterns);
- Factors contributing to the induction and exacerbation of asthma (e.g., combustion-related products, bioaerosols, and air toxics); and
- Risk assessment and risk management of environmental pollutants relevant to asthma.

Because of the rising rate of asthma in the United States, especially among children, and the scientific uncertainty as to the causes, the Agency will enhance its efforts to address this research need, working within the framework of the Strategy. Specifically, research will examine the toxic effects of aldehydes and bioaerosols on lung function (e.g., irritant responses, altered lung function, and inflammatory endpoints). Information resulting from this effort will be used to study effects of aldehydes and bioaerosols in human asthmatics.

EPA will also enhance its efforts to explore research opportunities to fill critical knowledge gaps for childhood cancer. Potential areas of emphasis include: 1) development and validation of susceptibility biomarkers that can be used to determine the range of susceptibility in a population (and sub-population) most at risk; and 2) study of the linkages between markers of exposure and cellular effects and then the relationship of these to disease outcomes. *In utero* and early life exposures to carcinogens may increase a child's risk of developing cancer before adulthood. The timing of exposures and their cellular and molecular consequences should be carefully considered in research that seeks to understand the relationship between susceptibility factors, environmental exposures and risk of a variety of childhood cancers. The Agency will use a molecular epidemiology approach where markers of exposure, susceptibility and effects can be developed in an integrated manner and related to a specific disease outcome.

In FY 2004, EPA will continue to work on guidance for conducting risk assessments for children. The guidance will address issues such as critical windows of vulnerability, mechanisms of action, use of pharmacokinetic data and models in risk assessments for children, exposure models, recommended age categories for exposure assessment, and child-specific exposure factors. EPA will also complete an updated version of the Child-Specific Exposure Factors Handbook containing new analyses and updated recommendations for assessment.

Additional risk assessment research will develop and test methods for collecting data in the National Children's Study. This research will:

- Develop and test sampling methods for cost-effective measurement of environmental agents in air, water, soil, food and indoor environments;
- Develop and test methods to collect biological samples from and test for effects in infants and children;
- Develop and test questionnaires that elicit information through questions that are accurate surrogates of exposure and effects measurements; and
- Develop methods to identify highly exposed and symptomatic individuals for over-sampling.

Under the Voluntary Children's Chemical Evaluation Program (VCCEP), the Agency will continue to assist vendors and school systems in the manufacture, procurement, and proper use of low-emitting consumer products and building materials to reduce the exposure of children to contaminants that can contribute to asthma and other respiratory problems.

Through the Children's Environmental Research Centers, EPA seeks to better understand the causes of environmentally induced disease among children and to eventually decrease the prevalence of childhood disease. In FY 2004, efforts will focus on working with community participants to assess the impact of reducing pollutants in the home and neighborhood on children's hearing, behavior, and test scores, and assessing the impact to children of exposure to mercury and PCBs among minority populations in Wisconsin, whose diets are heavy in fish from the Great Lakes. Additionally, research to understand the relationship(s) between environmental factors and developmental disorders will continue.

Assessing the State of the Environment

In FY 2004, EPA will initiate research in support of the Agency's annual State of the Environment (SOE) Report. This investment will allow EPA to measure progress in achieving cleaner air, safer water, and better-protected land resources by assessing actual impacts on human health. Focusing on indicators will move EPA beyond its historic reliance on process indicators (e.g., decreased emissions/discharges; increased facilities in compliance) to more direct outcome measures (e.g., reduced human exposures, reduced illness and disease).

EPA will develop the scientific components and aspects of the Report, including targeting the appropriate indicators for development and validation and ensuring the quality of the science and the utility of proposed data sets, designs, and indicators. In FY 2004, a workshop will be held to determine which human health indicators are most appropriate and highest priority for use in supporting the Annual SOE Report. Ultimately, the availability of

such indicators will impact the structure and design of Agency monitoring systems and the tracking efforts of others, and offer alternatives to some of the traditional reporting endpoints with a potential for cost savings.

EPA Science Advisor

In FY 2004, EPA will establish a Science Advisor function. The Science Advisor will be responsible for ensuring the availability and use of the best science to support Agency policies and decisions, as well as advising the EPA Administrator on science and technology issues and their relationship to Agency policies, procedures, and decisions. The Science Advisor's office will require a small cadre of senior staff to promote effective partnerships with EPA Programs and Regions, assist them in their efforts to strengthen environmental science, and provide for timely and open communication on critical science matters.

Homeland Security

Research in the area of rapid risk assessment will inventory internal, government and private sector national expertise to provide quick access to nationally recognized experts in areas relevant to homeland security (e.g., biology, chemistry, exposure assessments, detection/treatment technologies).

In FY 2004, emphasis will be placed on: evaluating methods for decontamination following exposure to biological agents, supporting development of optimal exposure protocols, refining toxicity databases, developing transport, fate, dispersion, and exposure parameters, and creating a rapid response bioinformatics monitoring team. In addition, work will begin on establishing protocols for communicating secondary risks, developing frameworks for sentinel animals to assist with exposure assessments, improving biological technology of assay screening, and improving methods for rapid detection of contaminants. As part of this objective, EPA will organize a support center to provide scientific and technical data and information to public officials at the federal, state, and local levels.

FY 2004 Change from the FY 2003 Request

S&T

- (+\$8,560,600, +6.1 FTE) This increase represents increased support to the Agency's Homeland Security Strategic Plan in the area of rapid risk assessment research. In FY 2004, emphasis will be placed on: evaluating methods for decontamination following exposure to biological agents, supporting development of optimal exposure protocols, refining toxicity databases, developing transport, fate, dispersion, and exposure parameters, and creating a rapid response bioinformatics monitoring team. EPA will also organize a support center to provide scientific and technical data and information to public officials at the federal, State, and local levels.

- (+\$450,000) The Agency will increase its efforts in children's health research with a focus on childhood cancer and asthma. Cancer research will focus on developing and validating biomarkers that can be used to determine susceptibility ranges in children, and studying the linkages between markers of exposure and cellular effects and their relationship to disease outcomes. Activities in the area of asthma research will examine the toxic effects of aldehydes and bioaerosols on lung function.
- (+\$1,160,200, +3.5 FTE) This increase establishes a Science Advisor to the EPA Administrator with resources appearing in Goal 8, Objective 1 and Goal 8, Objective 2. The Science Advisor will be responsible for ensuring the availability and use of the best science to support Agency policies and decisions, as well as advising the Administrator on science and technology issues and their relationship to Agency policies, procedures, and decisions.
- (+\$975,000) In a collaborative Agency-wide effort, the Agency will launch a National Aging Initiative – led by EPA's Office of Children's Health Protection. Research will play a critical role in this initiative by identifying and evaluating the unique susceptibilities of the elderly and looking at environmental hazards that affect the health of older persons. Research will also look into how an aging society will impact the environment (e.g., water usage, issues of disposal associated with antibiotics). This research will enhance the scientific foundation for assessing the health risks to the elderly.
- (+\$910,000) This increase supports EPA's FY 2004 State of the Environment (SOE) Report, which is also being supported under Goal 8, Objective 3. The investment will allow EPA to measure progress in achieving cleaner air, safer water, and better-protected land resources by assessing actual impacts on human health. In FY 2004, a workshop will be held to determine which human health indicators are most appropriate and of the highest priority for use in supporting the Annual SOE Report.
- (+\$500,000) This increase represents a redirection from Pollution Prevention Tools and Technologies to the NCS. These funds will support the design, pilot, and feasibility stage implementation of the NCS. As a member of the NCS Interagency Coordinating Committee (ICC), EPA is taking the lead in developing methods to investigate the relationships between exposure to environmental agents and adverse health outcomes in children.
- (-\$2,608,500) This represents a redirection of Computational Toxicology resources to Goal 8, Objective 3 – where EPA is formally consolidating its program in this area. There are no programmatic impacts.

- (-\$524,200, -5.2 FTE) These workyears are being redirected to support the Agency's Homeland Security Strategic Plan in the areas of rapid risk assessment research and building decontamination research.

EPM

- (+\$693,000, +1.6 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: SOUND SCIENCE, IMPROVED UNDERSTANDING OF ENV. RISK AND GREATER INNOVATION TO ADDRESS ENV. PROBLEMS

OBJECTIVE: IMPROVE SCIENTIFIC BASIS TO MANAGE ENVIRONMENTAL HAZARDS AND EXPOSURES.

Annual Performance Goals and Measures

Research

Human Health Risk Assessment Research

In 2004 Contribute to protecting children from harmful environmental agents in their daily lives by providing risk assessors and managers with better data on children's aggregate exposures in their homes and daycare settings, and improved exposure factors for estimating children's risk.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
External review draft of an updated Exposure Factors Handbook for Children, incorporating new data from EPA studies			1	review draft
Analysis of the "Children Total Exposure to Pesticides and Persistent Organic Pollutants (including EDCs) Study" to estimate aggregate exposures and identify critical exposure factors.			1	report

Baseline: Current risk assessments for children are severely hampered by a lack of exposure data and by exposure factors that are insufficient for describing how exposures change as children grow up and alter their activities. This research will provide significant new data on children's exposures to a wide range of environmental pollutants as they go about their daily lives, focusing on exposures in their homes and/or in daycare centers. The updated exposure factors will be more reliable, since they will incorporate more complete and better data and approaches to describe children's exposures to environmental pollutants. The data and factors developed in FY 2004 will significantly improve the reliability of the estimates of children's exposure and risk used by regulatory decision-makers throughout EPA.

Homeland Security - Rapid Risk Assessment

In 2004 Provide a database of EPA experts on topics of importance to assessing the health and ecological impacts of actions taken against homeland security that is available to key EPA staff and managers who might be called upon to rapidly assess the impacts of a significant terrorist event.

Performance Measures:	FY 2002	FY 2003	FY 2004	
	Actuals	Pres. Bud.	Request	
A restricted access database of EPA experts with knowledge, expertise, and experience for use by EPA to rapidly assess health and ecological impacts focused on safe buildings and water security.				1 database

Baseline: The attacks on the Pentagon and World Trade Center, and the subsequent mailing of anthrax-contaminated letters, were unprecedented events in United States history. Other such events could occur in the future, or a totally different type of an attack might be conducted by a terrorist group or individual. The human health and ecological consequences of such events cannot be known before they happen. It is clear, however, that both human health and the environment will be impacted, either directly or as a result of efforts to contain, decontaminate, or dispose of materials from such events. It is essential that information on human health and ecological risks be developed as quickly as possible to help inform the relevant EPA personnel who can then share that information with public officials and the affected individuals. Such assessments must be conducted recognizing that in many instances supporting technical data will be limited. No current database is available that identifies those individuals within EPA that have the knowledge, experience, and expertise to address risk assessment issues such as source characterization, hazard identification, dose-response assessment, exposure assessment, and risk characterization in a short time frame. The database that will be completed in FY 2004 will allow EPA to develop a quick-response capability to future events so that assessments of human health and ecological impacts can be conducted rapidly. The database is being developed in support of EPA's Draft Strategic Plan for Homeland Security and is focused on the rapid risk assessment tactic described in the strategy.

SOE Report - Human Health Indicators Research

In 2004 Develop a prioritized slate of potential human health indicators that improve EPA's ability to measure environmental progress using direct outcome measures (e.g., improvements in human health) and are appropriate for supporting State of the Environment Reports.

Performance Measures:	FY 2002	FY 2003	FY 2004	
	Actuals	Pres. Bud.	Request	
Produce a workshop report on the state of human health indicators to determine areas in which future research is needed.				1 workshop report

Baseline: In Nov 2001, the EPA Administrator gave direction to gather and develop information to help the EPA determine where we are and where we need to go to make sound strategic decisions regarding human health and environmental conditions. To accomplish this task, a document entitled the State of the Environment Report will be produced, backed by a scientifically-based technical support document. The selection and use of the most appropriate indicators that will be described in the technical support document is dependent on the information gained, exchanged and shared at a workshop specifically designed to assess the current state of knowledge and future needs in the area of human health indicator research.

Performance Measures:	FY 2002	FY 2003	FY 2004	
	Actuals	Pres. Bud.	Request	
A restricted access database of EPA experts with knowledge, expertise, and experience for use by EPA to rapidly assess health and ecological impacts focused on safe buildings and water security.				1 database

Baseline: The attacks on the Pentagon and World Trade Center, and the subsequent mailing of anthrax-contaminated letters, were unprecedented events in United States history. Other such events could occur in the future, or a totally different type of an attack

might be conducted by a terrorist group or individual. The human health and ecological consequences of such events cannot be known before they happen. It is clear, however, that both human health and the environment will be impacted, either directly or as a result of efforts to contain, decontaminate, or dispose of materials from such events. It is essential that information on human health and ecological risks be developed as quickly as possible to help inform the relevant EPA personnel who can then share that information with public officials and the affected individuals. Such assessments must be conducted recognizing that in many instances supporting technical data will be limited. No current database is available that identifies those individuals within EPA that have the knowledge, experience, and expertise to address risk assessment issues such as source characterization, hazard identification, dose-response assessment, exposure assessment, and risk characterization in a short time frame. The database that will be completed in FY 2004 will allow EPA to develop a quick-response capability to future events so that assessments of human health and ecological impacts can be conducted rapidly. The database is being developed in support of EPA's Draft Strategic Plan for Homeland Security and is focused on the rapid risk assessment tactic described in the strategy.

SOE Report - Human Health Indicators Research

In 2004 Develop a prioritized slate of potential human health indicators that improve EPA's ability to measure environmental progress using direct outcome measures (e.g., improvements in human health) and are appropriate for supporting State of the Environment Reports.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Produce a workshop report on the state of human health indicators to determine areas in which future research is needed.			1	workshop report

Baseline: In Nov 2001, the EPA Administrator gave direction to gather and develop information to help the EPA determine where we are and where we need to go to make sound strategic decisions regarding human health and environmental conditions. To accomplish this task, a document entitled the State of the Environment Report will be produced, backed by a scientifically-based technical support document. The selection and use of the most appropriate indicators that will be described in the technical support document is dependent on the information gained, exchanged and shared at a workshop specifically designed to assess the current state of knowledge and future needs in the area of human health indicator research.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Produce a workshop report on the state of human health indicators to determine where future research is needed.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: Report

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2004 Performance Measure: External review draft of an updated Exposure Factors Handbook for Children, incorporating new data from EPA studies.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: Draft report

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2004 Performance Measure: Analysis of the "Children Total Exposure to Pesticides and Persistent Organic Pollutants (including EDCs) Study" to estimate aggregate exposures and identify critical exposure factors.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: Report

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2004 Performance Measure: Deliver a restricted-access, database of EPA experts with knowledge, expertise, and experience for use by EPA Program Offices and Regions to rapidly assess health and ecological impacts focused on safe buildings and water security.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: Database

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

Coordination with Other Federal Agencies

Several Federal agencies sponsor research on variability and susceptibility in risks from exposure to environmental contaminants. The National Institutes of Environmental Health Sciences (NIEHS) achieves its mission through multi-disciplinary biomedical research programs, prevention and intervention efforts, and communication strategies. The NIEHS program includes a National Institutes of Health (NIH – parent organization of NIEHS) effort to study the effects of chemicals, including pesticides and other toxics, on children. EPA has collaborated with NIEHS in establishing Centers for Children's Environmental Health and Disease Prevention to study whether and how environmental factors play a role in children's health.

The National Center for Health Statistics (NCHS) of CDC is conducting the National Health and Nutrition Examination Survey (NHANES). NHANES is a national population-based survey and includes data on potentially sensitive sub-populations such as children and the elderly. EPA is participating in this survey with NCHS to collect information on children's exposure to pesticides and other environmental contaminants.

The National Institute of Child Health and Human Development (NICHD) supports laboratory, clinical, and epidemiological research on the reproductive, neurobiological, developmental, and behavioral processes, that determines the health of children and adults. EPA is collaborating with NICHD, CDC, and other Federal agencies in the design and implementation of a National Children's Study of 100,000 children, who will be enrolled during the mother's

pregnancy and followed throughout childhood and adolescence. This study was mandated in the Children's Health Act of 2000 to study environmental influences on children's health and development.

The National Center for Toxicological Research (NCTR) supports fundamental research on the effects of chemicals regulated by the Food and Drug Administration. Although some of the models used by NCTR may be similar to those used by EPA, the chemicals and regulatory context vary significantly. Historically, NCTR has been a leader in developing models and principles for risk assessment, which has led to collaborations between EPA and NCTR scientists.

Statutory Authority

Clean Air Act (CAA)

Safe Drinking Water Act (SDWA)

Clean Water Act (CWA)

Toxics Substances Control Act (TSCA)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

Resources Conservation and Recovery Act (RCRA)

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

Superfund Amendments Reauthorization Act (SARA)

Food Quality Protection Act (FQPA)

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Sound Science, Improved Understanding of Env. Risk and Greater Innovation to Address Env. Problems

Objective: Enhance Capabilities to Respond to Future Environmental Developments.

Enhance EPA's capabilities to anticipate, understand, and respond to future environmental developments; conduct research in areas that combine human health and ecological considerations; and enhance the Agency's capacity to evaluate the economic costs and benefits and other social impacts of environmental policies.

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Enhance Capabilities to Respond to Future Environmental Developments.	\$61,427.7	\$50,965.8	\$68,911.4	\$17,945.6
Environmental Program & Management	\$10,877.7	\$10,008.5	\$11,027.1	\$1,018.6
Science & Technology	\$50,550.0	\$40,957.3	\$57,884.3	\$16,927.0
Total Workyears	169.2	152.6	166.7	14.1

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Congressionally Mandated Projects	\$3,753.8	\$0.0	\$0.0	\$0.0
Endocrine Disruptor Research	\$10,353.1	\$11,806.5	\$11,538.8	(\$267.7)
Facilities Infrastructure and	\$2,267.8	\$2,177.2	\$2,758.3	\$581.1

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Operations				
Homeland Security-Preparedness, Response and Recovery	\$1,587.6	\$0.0	\$0.0	\$0.0
Management Services and Stewardship	\$327.7	\$299.1	\$633.3	\$334.2
Regulatory Development	\$7,552.3	\$7,532.2	\$7,635.5	\$103.3
Research to Support Emerging Issues	\$28,658.5	\$29,150.8	\$41,470.5	\$12,319.7
STAR Fellowships Program	\$9,748.7	\$0.0	\$4,875.0	\$4,875.0

FY 2004 Request

In recent years, EPA has begun moving beyond environmental regulation to environmental protection in its broadest sense, including anticipating and preventing problems before they develop into major concerns. Research to support EPA in this endeavor focuses on EPA's capabilities to anticipate, understand, and respond to future environmental developments, in areas that combine human health and ecological considerations with social science, environmental decision-making, and estimation of environmental costs, risks, and benefits.

For FY 2004, research will continue in the areas of endocrine disruptors, mercury, and socio-economics. EPA will undertake new research efforts in FY 2004 related to computational toxicology, Multi-pollutant initiative research, environmental indicators work in support of the State of the Environment Report and graduate fellowships. Research strategies and Multi-Year Plans articulate the long-term goals, purpose, and priorities. They include a scheduled timeline of research and assessment activities and the expected products including annual performance goals and measures under the Government Performance and Results Act (GPRA).

Endocrine Disruptors

Evidence suggests that humans and animals, both domestic and wildlife species, have suffered adverse health effects resulting from exposure to environmental chemicals that interact with the endocrine system. Collectively, these chemicals are referred to as endocrine disrupting chemicals (EDCs). Reports of reproductive effects in humans over the last four decades, and increases in certain cancers that may have an endocrine-related basis (breast, prostate, testicular), have led to speculation about environmental causes. Recognizing the potential scope of the problem, the possibility of serious health effects on populations, and the persistence of some EDCs in the environment, EPA developed a "Research Plan for Endocrine Disruptors" in 1998 (www.epa.gov/ORD/WebPubs/final/revendocrine.pdf). The EDC Research Plan was externally

peer-reviewed by a panel convened by the Agency's Risk Assessment Forum. The objective of the EDCs research program is to improve knowledge and understanding of endocrine disruptors in the environment in order to improve methods of assessment and risk management. It includes areas that are of unique importance to EPA in helping the Agency meet its legislative mandates and that serve to improve the basic understanding of EDCs in general. EPA has also developed a draft EDC Multi-Year Plan (MYP) that identifies the elements of the EDC Research Plan that EPA will pursue in an integrated fashion over a seven-year time frame.

Endocrine disruptors research in FY 2004 will continue to focus on the priorities established in the 1998 plan by developing tools to identify hazards, characterize the extent of human and wildlife exposures to known and suspected EDCs, and manage risks from exposure to EDCs. This research focuses on three long term goals: 1) provide a better understanding of the science underlying the effects, exposure, assessment, and management of endocrine disruptors; 2) determine the extent of the impact of endocrine disruptors on humans, wildlife, and the environment; and 3) support EPA's screening and testing program mandated under the Food Quality Protection Act of 1996 and the Safe Drinking Water Act Amendments of 1996. In FY 2004, EPA will: identify key risk assessment issues and develop guidance for assessing endocrine disruptors; evaluate existing risk management tools to reduce exposure to EDCs; develop and evaluate an innovative DNA microarray and other state-of-the-art analytical methods for EDCs; evaluate several classes of chemicals suspected of being EDCs and determine their potencies in laboratory studies; initiate collaborative studies with other Federal agencies and academia to characterize the extent of EDC exposures; and ascertain the degree to which certain EDCs adversely affect wildlife at the population level.

As in the past, EDC-related work will be organized along an integrated pathway of effects, exposure, risk assessment, and risk management research. Effects research is needed to determine the nature and extent of adverse effects in humans and wildlife caused by exposure to EDCs. Efforts in this area will focus on: 1) the development and standardization of protocols for the Agency's screening and testing program to identify endocrine disrupting chemicals, 2) determining the unique relationship between developmental exposures (e.g., prenatal and early postnatal) and the onset and severity of adverse health outcomes later in life (adulthood), and 3) determining the degree to which the effects of EDCs can be extrapolated across species.

Exposure research is needed to characterize the key factors contributing to how, when, and where EDC exposures occur and their magnitude. Efforts will focus on: 1) developing analytical and measurement tools (DNA microarrays, etc.) for characterizing and quantifying EDC exposures; 2) conducting pilot studies to validate these methods (collaborating with other ORD labs and the Regions and States); and 3) planning and conducting exposure studies to better define the spatial and temporal variability along with the magnitude of real-world EDC exposures. Assessment work will result in the development of an analytical framework and guidelines for evaluating health and ecological impacts of reported endocrine disruptors. To achieve this, risk assessment research will: 1) identify key risk assessment issues for evaluating endocrine disruptors; 2) identify methods to adequately evaluate data on the effects of EDCs on human health and the environment; 3) develop a framework that supports proper assessment of

EDCs; and 4) develop and document guidance, incorporating this framework, for assessing EDCs.

Risk management research will identify current EDC releases that can be mitigated or eliminated by existing risk management tools and will develop new tools to manage current and future EDC risks. Initial efforts will focus on the following sources of exposure: 1) combustion; 2) confined animal feeding operations; 3) drinking water treatment; 4) contaminated sediments; and 5) waste water treatment.

Computational Toxicology

The emerging sciences of genomics, computational methods and bioinformatics have created a new opportunity to revolutionize the science used in chemical risk assessment. While EPA has long worked toward obtaining the studies needed to reduce, refine and replace test methods, the computational toxicology work under this objective will enable EPA to develop approaches to reduce animal testing to a far greater extent by developing alternative techniques for prioritizing chemicals for further testing. This computational toxicology work is within the Molecular-level Understanding of Life Processes activity, which is one of the Administration's six high-priority science and technology activities for federal investment.

In FY 2004, EPA will produce a peer-reviewed Computational Toxicology Research Strategy describing how EPA will provide the proof-of-concept for several EPA problems involving the testing requirements for endocrine disruptors and a complex class of new pesticides where cumulative risks are a concern. The overall goal of the computational toxicology research program is to develop more efficient approaches to reveal the sequence of events by which aggregate and cumulative exposures to chemicals can cause adverse effects in humans and a large number of natural populations and to incorporate the use of these methods in risk assessments. The proof-of-concept research will demonstrate how computational toxicology can integrate new scientific advances for reducing the cost of EPA regulations. This program will also significantly improve risk assessment by basing risk on the key molecular events underlying adverse effects on human health and the environment.

Mercury

Mercury is released from a variety of sources, exhibits a complicated chemistry, and proceeds via several different pathways to humans and wildlife. After release, mercury undergoes complicated transformations that can result in highly toxic methylmercury, an organic form of mercury which bioaccumulates in fish and animal tissue. Methylmercury is a persistent compound posing risks of neurological and reproductive problems for human and wildlife, and therefore is a pollutant of considerable concern.

Since the developing nervous system is more vulnerable to mercury toxicity, children exposed to methylmercury through their mother's consumption of fish, and children who eat large amounts of fish from local waters, can be particularly at risk of adverse effects. The

presence of mercury in freshwater fish, particularly predator fish higher in the food chain, is the most frequent basis for fish advisories. Predatory marine fish (tuna, swordfish, etc.) is also a source of mercury to humans. Almost 75 percent of all fish advisories in the United States are at least partly due to mercury contamination in fish and shellfish. The number of states that have issued mercury advisories has risen steadily from 27 in 1993 to 44 in 2001. As of May 2002, seventeen states issued statewide advisories for mercury in freshwater lakes and/or rivers.

While power generation facilities collectively are the largest remaining source of mercury emissions to the atmosphere, there are great uncertainties associated with understanding the fate and transport of atmospheric mercury and how to most efficiently manage this pollutant while simultaneously meeting significant reduction targets for other pollutants. The final rule to regulate mercury and other air toxics from power plants is due by December 15, 2004. In addition, the Administration has proposed the Clear Skies Initiative to cut power plant pollution, including mercury, by 70 percent in order to protect public health.

EPA has developed a draft Mercury Multi-Year Plan, which identifies research efforts to be worked on over a six-year time frame, that includes the elements of the Agency's externally peer-reviewed Research Strategy for Mercury (2000). In FY 2004, the Agency's Clear Skies Research Initiative will focus on mercury by collecting data at power plants to evaluate the performance of continuous emission monitors (CEMs) and initiate laboratory studies to improve EPA's understanding of atmospheric mercury fate and transport. This research, which will be conducted to support implementation of the final rule to regulate mercury and other air toxics from power plants, will also support the President's Clear Skies Initiative by identifying where emerging control technologies and continuous measurement of mercury combustion sources can facilitate or optimize mercury emissions reduction.

Major short-term products include the completion of data collection at the power plants to evaluate the long-term performance of continuous emissions monitors (CEMs) and emerging control technology options, and completion of the design of laboratory studies to test and confirm hypotheses of critical atmospheric reactions observed in field studies. For the longer-term, major products will include: 1) state-of-the-art information for a variety of stakeholders (EPA, states, industry) on the cost, performance, and environmental implications of mercury control technologies taking into account the latest field study results; and 2) atmospheric mercury fate and transport and source apportionment models and source emissions to assess how reductions in power plant emissions have influenced atmospheric concentrations.

EPA will emphasize several other mercury-related research issues in FY 2004, including: 1) source characterization and cataloguing from non-combustion sources; 2) assessment of key fate and transport issues for tracking the fate of mercury from sources to concentrations in fish tissue; 3) mercury risk communication strategies (especially to sensitive sub-populations); and 4) disposal of excess mercury stocks and improved management of mercury wastes. Research in FY 2004 will reflect a greater emphasis on ecological effects assessment. Research results will include a model provided to the states and regions capable of supporting a Total Maximum Daily Load (TMDL) assessment of methylmercury levels in fish resulting from atmospheric

deposition, point sources, and internal watershed processes. This model will be used to evaluate the relative impacts of local sources, internal cycling, and long-range transport and to predict the responses of mercury concentrations in fish to mitigation measures.

Environmental Indicators

To measure progress in achieving cleaner air, safer water, and better-protected land resources by assessing actual impacts on human and ecological health, new research will provide the foundation for the Agency's Report on the Environment. This focus will move EPA beyond its historic reliance on process indicators (e.g., decreased emissions/discharges; increased facilities in compliance) to more direct outcome measures (e.g., improved ecological conditions, reduced human exposures, reduced illness and disease). Indicator research has played a pivotal role in the formulation and preparation of the first EPA SOE Report. This investment is intended to expand this important contribution with respect to future SOE Reports. In FY 2004, EPA will produce a technical report on the current state of environmental indicators, which will provide the scientific basis for the FY 2004 State of the Environment Report.

Socio-Economic Research

Effective accomplishment of EPA's mission depends on understanding not only the physical and biological effects of environmental changes, but also the behavioral causes and consequences of those changes. The focus of socio-economic research at EPA is to develop a better basis for making decisions using sound assessments of human behavior that affect environmental outcomes. Priority socio-economic research identified by EPA economists and outside experts includes: ecosystem and human health benefits valuation; decision-making processes that incorporate non-monetized benefits; value of information; corporate environmental behavior and the effectiveness of government interventions; and effective group or community decision-making. The implementation strategy is outlined in EPA's draft socio-economic MYP.

Research conducted in FY 2004 will enhance environmental decision-making by improving the understanding of how people value the environment, and will focus on difficult valuation issues of critical concern to environmental decision makers as they evaluate environmental policy initiatives. This research focus is particularly important to regulatory programs that must conduct cost-benefit analyses. Ecosystem valuation is one of the top research priorities for agency rule development because there are extensive gaps in the information we have about biodiversity, habitat, wildlife, and different ecosystem states. Research on market mechanisms and incentives will support investigations that explore the conditions under which financial and other performance incentives will achieve environmental objectives (e.g., pollution reduction, habitat preservation) at a lower cost or more effectively than traditional regulatory approaches. This research will also help Federal and state agencies understand how regulated entities respond to the incentives for environmental compliance offered through enforcement, compliance assistance, and information and voluntary mechanisms.

Graduate Fellowships and Exploratory Grants

A blue ribbon panel of the Science Advisory Board recommended in 1994 that EPA enhance its environmental education programs for training the next generation of scientists and engineers. In FY 1995, the Science To Achieve Results (STAR) graduate fellowship program was initiated to meet that challenge. This competitive, peer-reviewed program is designed to attract some of the brightest and most dedicated students in the Nation for training in scientific and engineering disciplines pertaining to the protection of public health and the environment. The goal of this program is to encourage these students to pursue careers in environmentally-related fields not only with EPA, but also with states, localities, and industry. Research completed under the fellowship program helps resolve uncertainties associated with particular environmental problems and focuses graduate research on priority areas. In FY 2004, the Agency expects to support fellowships across multiple disciplines, including the biological and physical sciences, mathematics, computer sciences, and engineering.

In FY 2004, the Exploratory Grants research program will announce an annual solicitation for research proposals in areas where significant gaps in scientific knowledge and understanding exist. This program provides opportunities for individual investigators from the academic research community to conceive, define, and propose research projects. Topics from a broad variety of areas, such as environmental chemistry and physics, health and ecological effects of pollution, and nanotechnology can be addressed under the Exploratory Grants program. Nanotechnology is one of the Administration's six high-priority science and technology activities for Federal investment. Panels of external researchers competitively review the proposals, with only the most scientifically sound proposals ultimately receiving support. The major program outputs are scientific articles published in peer-reviewed literature; these publications are intended to enhance scientific knowledge and understanding, and to be used as the basis of regulatory support work.

Improve Economic Information and Methods

In FY 2004, one of EPA's priorities is to undertake economic valuation studies that will better quantify human health and ecological benefits from air, water and waste management programs. Working within the Agency, with outside experts and the Office of Management and Budget, EPA will develop guidance for Agency economists on the best methods available to value reduced health risks from lower pollution levels. In addition, in FY 2004 EPA is committed to continuing to improve its ability to quantify ecological benefits from environmental improvements to better support EPA regulatory decisions and policies. EPA will continue to develop guidance on the performance of economic analyses, and conduct peer reviews of major economic reports.

EPA will continue to analyze the environmental impacts from changes in economic markets anticipated to result from new international trade policies and proposals. Executive Order 13141 mandates "careful assessment and consideration of the environmental impacts of trade agreements," which the Agency will continue addressing through ongoing assessments and

written environmental reviews. The Agency will also continue its work to create a state-of-the-art tool for estimating the environmental impacts of changes in economic activity.

The outputs of risk assessments and benefit-cost analyses are important considerations in decision making at EPA. In FY 2004, EPA will continue to evaluate and refine methods for expanding the use of risk assessment information in economic benefit analyses. EPA's economists often present a single point estimate of the benefits and costs, creating a false sense of precision when, in reality, the estimates are extremely uncertain. Therefore, the Agency will continue to develop methods and guidance to improve the Agency's treatment and presentation of uncertainty in its analyses.

EPA's Science Advisory Board will review new research and analytical methods being considered by EPA to assess and manage environmental risks. EPA will convene economic research and policy workshops on strategic priorities for economics at EPA, including: measuring the economic values of reducing human mortality and morbidity risks, applying market-based approaches to environmental management of watersheds, addressing uncertainties in economic analyses, and valuing the benefits of protecting ecological services. Such workshops help disseminate EPA's research needs and encourage exchanges between the policy and research communities.

The Agency will also continue its work to better measure the costs of its regulatory programs through support of the Census Bureau's Pollution Abatement Control and Expenditure (PACE) survey in order to have reliable, recent cost data. This annual survey was funded by the Department of Commerce's Bureau of the Census until approximately five years ago, when it eliminated funding for the survey. EPA started providing the funding last year because the PACE survey provides the core data EPA relies on for quantifying the costs of environmental protection programs.

EPA will also continue its innovative work on environmental health indicators. These indicators are quantifiable measures of trends over time reflecting important environmental exposures or diseases that may be influenced, in part, by the environment. Work in 2004 will involve the development of new indicators for aggregate exposure to air pollutants and drinking water contaminants, biomonitoring of mercury and pesticide exposures, and the linking of environmental data to health outcomes. Additionally, the Agency will continue its groundbreaking work on environmental health indicators for children.

FY 2004 Change from FY 2003 Request

S&T

- (+\$9,119,100, +17.0 FTE) This increase reflects new resources (\$3,907,500) associated with the Computational Toxicology initiative in addition to realigned base resources related to this work (\$3,238,400, 8 FTE from Goal 8, Objectives 2 and 3 and Goal 4 Objective 3) and redirected resources (\$1,973,200, 9 FTE from Goal 8, Objectives 1

through 4 and Goal 3) to support computational toxicology work. This Computational Toxicology work is within the Molecular-level Understanding of Life Processes activity, which is one of the Administration's six high-priority science and technology activities for federal investment. This initiative will enable EPA to demonstrate how to reduce the cost and use of animal testing to a far greater extent by prioritizing data requirements and will provide the proof-of-concept for several EPA problems involving the testing requirements for endocrine disruptors and a complex class of new pesticides where cumulative risks are a concern.

- (+\$4,875,000) This increase reflects funding to restore a portion of the STAR fellowships program. Resources will be used to award fellowships to top graduate students across multiple environmentally related disciplines, including the biological and physical sciences, mathematics, computer sciences, and engineering.
- (+\$2,227,000, +3.0 FTE) This investment to support the Report on the Environment will enable researchers to coordinate the development of data sets, designs, and indicators. Researchers will work closely with an intra-agency work group to implement the Administrator's vision for using indicators and sound science to inform performance-based management within EPA. Work years include one new post-doctoral position and two work years redirected from Goal 2, Objective 2 to support this investment.
- (+\$1,465,000) This investment for the Clear Skies Initiative is needed in FY 2004 to ensure data on emerging control and measurement technologies are available before utility companies make commitments on how they plan to reach the targets for mercury. This work is also needed to ensure the improved information on transport and fate can be incorporated into air quality models in time to be useful to air quality managers.
- (+\$643,900, +5.5 FTE) This increase reflects the realignment and consolidation of resources for EPA's FY 2003 Regulatory Support initiative. These resources enable EPA scientists to be involved earlier and more often in the policy making process, helping to determine both additional research and analyses needed and review the science underpinning the Agency's decisions. The remaining regulatory support resources are distributed across all eight goals, reflecting the multi-media nature and broad scope of regulatory support work.
- (-\$893,600, -8.0 FTE) These resources are related to work years associated with research characterizing the risk of long-term, continual discharge of Pharmaceuticals and Personal Care Products (PPCPs) to water bodies and in determining the need for human health and ecological criteria. A portion of these work years (1.8) will be redirected to Goal 2, Objective 2 to transfer the PPCPs research program to that objective with other water related research. Other work years (3.2) will be redirected to Goal 7 to support chemical assessments work within the Integrated Risk Information System (IRIS) program, and the remaining (3) work years will be redirected to support Biosolids research in Goal 2,

Objective 2. The redirection of work years out of the PPCP program is expected to reduce the number of measurement methods and occurrence data for PPCPs in water.

- (-\$428,600, -4.0 FTE) This represents a realignment of resources within this objective involved in endocrine disruptor compounds (EDCs) related work to support Computational Toxicology. These resources will continue to focus on EDCs under the Computational Toxicology program.
- (-\$400,800, -1.0 FTE) The reduction also reflects one work year redirected to support chemical reassessments work in Goal 7 within the Integrated Risk Information System (IRIS) program. This reduction also reflects a decrease to the EDC research program that will result in delays in completing research products including the development of thyroid biomarkers and biological indicators.
- (-\$81,000, -0.8 FTE) These resources are being redirected to support the new Homeland Security Research Center. This redirection will reduce bench scale research to determine the combustion parameters that influence mercury capture in combustion systems. This reduction is not expected to impact performance commitments.

EPM

- (+\$915,300, +2.7 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: SOUND SCIENCE, IMPROVED UNDERSTANDING OF ENV. RISK AND GREATER INNOVATION TO ADDRESS ENV. PROBLEMS

OBJECTIVE: ENHANCE CAPABILITIES TO RESPOND TO FUTURE ENVIRONMENTAL DEVELOPMENTS.

Annual Performance Goals and Measures

Research

Research to Support the SOE Report

In 2004 Produce a technical report assessing the condition of environmental resources and human health, providing the scientific foundation for a State of the Environment Report and information on areas requiring further scientific data to make sound decisions on protecting human and environmental health.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Produce a technical report on the state of environmental indicators, from which the SOE technical chapters will be developed.			1	tech report

Baseline: In Nov 2001, the EPA Administrator gave direction to gather and develop information to help the EPA determine where we are and where we need to go to make sound strategic decisions regarding human health and environmental conditions. To accomplish this task, a document entitled the State of the Environment Report will be produced, backed by a scientifically-based technical support document. This technical support document will incorporate baseline data and will track changes in air and water quality, food and drinking water safety, waste management and recycling, in addition to tracking national public health and environmental conditions and trends.

Computational Toxicology

In 2004 Develop a computational toxicology research strategy that provides the framework for research that will help fill major data gaps for a large number of chemical testing programs and reduce the cost and use of animal testing.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Produce a computational toxicology research strategy.			1	strategy

Baseline: The objective of the Computational Toxicology Initiative is to integrate modern computing and information technology with molecular biology to improve the Agency's prioritization of data requirements and risk assessment of chemicals. The ultimate goal of computational toxicology research is to demonstrate the feasibility of setting mechanistically-based priorities for chemical risk assessment and to optimize in vivo and in vitro testing requirements through the use of computational methods and molecular profiling afforded by the advances in emerging technologies such as proteomics and genomics. The Computational Toxicology Initiative will require the development of a research strategy to outline research priorities and themes that EPA should pursue over the next 5-10 years. In FY 2004, EPA will produce a research strategy that identifies major research gaps and approaches for the development of EPA's computational toxicology research. The Computational Toxicology Initiative started in FY2003 and involves research to evaluate key assumptions in the approach using endocrine-disrupting chemicals. Based on principles derived from these studies, the scope of the initiative will be widened to include other chemical classes starting in FY 2004.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Produce a technical report on the state of environmental indicators from which the SOE technical chapters will be developed.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: Technical report

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2004 Performance Measure: Produce a computational toxicology research strategy.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: Strategy

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

Coordination with Other Agencies

The broad nature of the EDCs issue necessitates a coordinated effort on both the national and international levels. EPA has shown extensive leadership at both levels - chairing the Committee on Environment and Natural Resources (CENR) interagency working group and chairing a Steering Group on Endocrine Disruptors under the auspices of the International Programme on Chemical Safety/World Health Organization for Economic Cooperation and Development (IPCS/WHO/OECD). Due to the complex nature of the uncertainties posed by endocrine disrupting chemicals, the overlapping concerns of Federal agencies, and the resource constraints on the Federal budget, close coordination and cooperation among Federal agencies are essential to the resolution of critical research questions. While the CENR provides the umbrella for this coordination, individual agencies are responsible for the development of their own independent research plans.

EPA is also conducting aggressive outreach efforts with other Federal Agencies in an effort to build collaborative partnerships for the Computational Toxicology Research Program; discussions are currently underway with the National Institute of Environmental and Health Sciences (NIEHS) and the American Chemistry Council. Additionally, research coordination efforts with the Department of Defense (DOD) and the Department of Energy's (DOE) Sandia National Laboratory are also planned.

Under EPA's leadership, an inventory of Federal research on endocrine disruption has been developed and is used to evaluate Federal efforts, identify research gaps and establish priorities, and clarify governmental roles and responsibilities. Working with other nations, EPA has expanded the U.S. Federal inventory to include projects from Canada, Japan, and Europe and has turned it into a Global Endocrine Disruptors Research Inventory with close to 800 projects. The IPCS/WHO/OECD Steering Group on Endocrine Disruptors has developed a "Global State-of-the-Science Review," which was made available August 12th, 2002. Both the inventory and the international assessment result from recommendations made at the 1997 G-8 Environmental Ministers' Meeting. In FY 2004, EPA will continue to collaborate with European countries under the U.S.-EU Science and Technology Agreement and with Japanese scientists under the U.S.-Japan Science and Technology Agreement.

EPA is in a unique position to focus Federal pollution prevention efforts in the critical area of mercury research. Progress has been made in organizing the concepts and ideals of pollution prevention in the private sector, but much work remains. The Agency, through partnerships with private sector companies, non-profits, other Federal agencies, universities, and states, including California EPA, has worked to identify and control human exposure to methylmercury. EPA has also been working with the Department of Energy and the U.S. Geological Survey to address risk management issues associated with mercury emissions from utilities.

EPA will continue to support jointly sponsored economic workshops with other regulatory agencies, such as the Food and Drug Administration and Department of Agriculture, to address the economic valuation of human health effects. These workshops on economics and environmental policy will continue to draw upon EPA-sponsored economic research, facilitating information exchanges among academic and Federal regulatory agency representatives.

The Agency will continue to support jointly sponsored economic workshops with other regulatory agencies, such as efforts under way with the Office of Management and Budget and the Department of Health and Human Services to address valuation of human health effects. Additionally, the Agency will continue to support the Census Bureau's Pollution Abatement Control and Expenditure (PACE) survey in order to have reliable, recent cost data.

Statutory Authorities

Clean Air Act (CAA) and amendments

Environmental Research, Development and Demonstration Act (ERDDA)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

Toxic Substances Control Act (TSCA)

Food Quality Protection Act (FQPA) of 1996

Safe Drinking Water Act (SDWA) and amendments

Toxic Substances Control Act, sections 4, 5, and 6 (15 U.S.C. 2603, 2604, and 2605)

Clean Water Act sections 304 and 308 (33 U.S.C. 1312, 1314, 1318, 1329-1330, 1443)

Safe Drinking Water Act section 1412 (42 U.S.C. 210, 300g-1)

Resource Conservation and Recovery Act/HSWA: (33 U.S.C. 40(IV)(2761), 42 U.S.C. 82(VIII)(6981-6983))

Clean Air Act: 42 U.S.C. 85(1)(A)(7403, 7412, 7429, 7545, 7612)

Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. 103(III)(9651)

Pollution Prevention Act (42 U.S.C. 13101-13109)

Federal Technology Transfer Act

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

**Sound Science, Improved Understanding of Env. Risk and Greater Innovation to Address
Env. Problems**

Objective: Improve Environmental Systems Management.

Provide tools and technologies to improve environmental systems management while continuing to prevent and control pollution and reduce human health and ecological risks originating from multiple economic sectors.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Improve Environmental Systems Management.	\$54,429.8	\$52,274.1	\$45,446.9	(\$6,827.2)
Environmental Program & Management	\$5,418.2	\$2,706.1	\$3,270.6	\$564.5
Hazardous Substance Superfund	\$419.5	\$2,468.0	\$743.0	(\$1,725.0)
Science & Technology	\$48,592.1	\$47,100.0	\$41,433.3	(\$5,666.7)
Total Workyears	145.1	146.6	143.0	-3.6

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Congressionally Mandated Projects	\$13,512.1	\$0.0	\$0.0	\$0.0
Environmental Technology Verification (ETV)	\$3,607.7	\$3,617.6	\$3,682.0	\$64.4
Facilities Infrastructure and	\$2,290.0	\$2,084.0	\$2,352.3	\$268.3

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Operations				
Homeland Security-Preparedness, Response and Recovery	\$40.4	\$1,875.0	\$625.0	(\$1,250.0)
Legal Services	\$251.9	\$270.7	\$282.2	\$11.5
Management Services and Stewardship	\$382.0	\$351.4	\$636.1	\$284.7
Research to Support Pollution Prevention	\$37,672.9	\$44,075.4	\$37,869.3	(\$6,206.1)

FY 2004 Request

EPA has developed and evaluated tools and technologies to monitor, prevent, control, and clean-up pollution throughout its history. The emphasis of the Agency's programs in the 1970's and 1980's was to identify viable options for controlling or remediating environmental problems. Over the last decade, the Agency has turned its attention more and more to pollution prevention (P2) when addressing high-risk human health and the environmental problems. A preventive approach requires: (1) innovative design and production techniques that minimize or eliminate environmental liabilities; (2) holistic approaches to utilizing air, water and land resources; and (3) fundamental changes in the creation of goods and services and their delivery to consumers. The authorizing legislation for this research comes from the Pollution Prevention Act of 1990 that reads in part "The EPA should coordinate with appropriate offices to promote source reduction practices in other Federal agencies, and generic research and development on techniques and processes which have broad applicability."

The purpose, goals and associated research directions for EPA's research program on pollution prevention and new technologies (P2NT) are found in EPA's externally peer-reviewed Pollution Prevention Research Strategy (1998). The draft P2NT Multi-Year Plan (MYP) serves to translate the strategic directions of the Pollution Prevention Research Strategy into a year-by-year plan with specific goals and measures. In FY 2000, in cooperation with EPA's Office of Research and Development, the EPA's Office of Inspector General (OIG) conducted a pilot-scale program evaluation of research within this objective. The OIG evaluation noted EPA had made significant progress in its Government Performance and Results Act (GPRA) efforts. The evaluation has been used to further improve EPA's P2NT research program.

Pollution Prevention and New Technologies

In FY 2004, the Agency will continue to move from one-dimensional solutions involving a single medium/single pollutant to an integrated, systems-based approach stressing

sustainability. EPA will accomplish its holistic approach to P2NT through research on pollution prevention tools and technologies, environmental systems management, the National Environmental Technology Competition and the Environmental Technology Verification (ETV) program. Pollution prevention research in FY 2004 will: (1) provide methods and models for management and prevention of source-specific emissions that threaten public health and ecological systems; (2) develop more flexible and useful lifecycle assessment methods; (3) incorporate lifecycle and cost engineering concepts into industrial process simulators; (4) improve the ability to measure and objectively evaluate the environmental and human health impacts of risk management options; and (5) advance impact assessment theories, methodologies, and tools, including the capability to address such non-chemical impacts as resource depletion, habitat alteration, and decreased biodiversity. This research will also accelerate the adoption and incorporation of pollution prevention by developing, testing, and demonstrating technologies and approaches applicable across economic sectors. In a broader context, pollution prevention tools and technologies research will continue expanding beyond its traditional focus on industrial sectors to other sectors (e.g., energy, agriculture) and ecosystems.

Green chemistry involves the design of chemicals and alternative chemical syntheses that do not use toxic feedstock, reagents, or solvents, and do not produce toxic by-products or co-products. Green chemistry research will contribute to the development of safer commercial substances and environmentally friendly chemical syntheses. This type of research is conducted in partnership with the National Science Foundation (NSF) through EPA's Technology for a Sustainable Environment (TSE) program, which supports the development of cutting-edge P2 technologies based on research in chemistry, chemical engineering, industrial ecology, and manufacturing methods. Academic research in green chemistry research is conducted through EPA's Science to Achieve Results (STAR) program. Proposals for green chemistry research are chosen through a highly selective, peer-reviewed, competitive process. Research efforts will explore benign chemical synthesis, reformulation of products, substitution of alternative chemicals (solvent replacement), bioengineering; and in-process changes in order to reduce harmful emissions of volatile organic compounds (VOCs), global warming compounds, and persistent bioaccumulative toxics (PBTs).

The Agency will continue to support prevention, minimization, and, when possible, elimination of PBTs by improving methods for their identification and testing. These pollutants pose risks because they are toxic, persist in ecosystems, and accumulate in fish and up the food chain. EPA has committed, as outlined in the Agency's Multimedia Strategy for Persistent Bioaccumulative and Toxic (PBT) Chemicals, to create a coordinated, Agency-wide system that will address the multimedia issues associated with priority PBT pollutants. This research is necessary because conventional pollution control techniques will not provide a long-term, sustainable solution. PBTs must eventually be eliminated at their source through process changes or chemical substitution in products. Research will focus on the following areas: (1) dioxins/furans and polychlorinated biphenyls (PCBs); (2) persistent organic pollutants; (3) mercury – from source characterization to retirement of mercury stocks; and (4) the development of a national routine PBT monitoring strategy. By concentrating on these areas, EPA will advance the understanding of exposure, assessment, and management of PBTs while

simultaneously working toward PBT prevention. EPA measures progress on actions under the Agency's multimedia strategy through environmental and human health indicators (e.g., reduced levels of PBTs in human blood or fish tissue), chemical release, waste generation, use indicators and other measures.

Environmental Systems Management

Environmental systems management (ESM) research endeavors to integrate environmental management with economic development and social equity, while simultaneously expanding environmental stewardship by industries, governments, and citizens. The ESM program plan was the subject of a consultation by the Environmental Engineering Committee of the EPA Science Advisory Board (SAB) in March 2001. While a formal report was not required or issued for such a consultation, the Committee unanimously supported the overall direction and goal of the research program. FY 2004 research in this area will focus on obtaining preliminary results from applying market based incentives and principles of law to managing wet-weather flows; field data and land use models; and applying methods for evaluating conventional crops for sustainable agriculture and chemical production technologies.

National Environmental Technology Competition

EPA will also facilitate the adoption of innovative environmental technologies by the public and private sectors through the third component of this objective, the National Environmental Technology Competition (NETC). In FY 2004, EPA will develop competitive solicitations for cost-effective technologies to help small communities meet the new arsenic drinking water standard. Technologies meeting certain criteria will be verified for performance and an external peer review panel will select the most-promising technologies. This competitive process is expected to show tangible, measurable results for developing cost-effective solutions for arsenic removal from drinking water and other such vexing problems.

Small Business Innovation Research Program

EPA's Small Business Innovation Research (SBIR) Program, created by the Small Business Innovation Development Act of 1982 and funded through a 2.5% set-aside of the Agency's extramural research and development budget, makes awards to small, high-tech firms to help develop and move new environmental tools and technologies from "proof of concept" to commercialization. Proposals are evaluated and judged on a competitive basis by external peer reviewers. The SBIR program targets research to prevent pollution, reduce water and air pollution, manage solid and hazardous wastes, and improve environmental monitoring. Recognizing that the expense of carrying out research and development programs is often beyond the means of small businesses, SBIR participants receive both financial and technical assistance in developing and commercializing technologies according to the anticipated market. The technologies developed under SBIR help the regulated community meet environmental

requirements in a more cost-effective manner; enable industry to reduce the use of toxic and hazardous materials in production processes, and in recovering and recycling materials for reuse; and provide new approaches to designing more environmentally-friendly products.

Environmental Technology Verification

Technology purchasers and venture capitalists have historically viewed technology vendor-supplied performance data with skepticism. This has limited the commercial development and use of more innovative technologies. The ETV program provides government management to ensure scientific relevance, fairness, and consistency in evaluating environmental technologies. ETV is a voluntary, market-based verification program for commercial-ready technologies, with over 1,800 stakeholders who represent diverse interests within the environmental arena. The goal of ETV is to verify the performance characteristics of private-sector-developed technologies so that purchasers, users, and permit writers have the information they need to make environmentally sound decisions. The program is designed so that, as the value of ETV verification becomes more broadly appreciated, technology developers will be required to cover an increasing share of the verification costs. The program cost share for vendors in the program is projected to increase from approximately 17 percent in FY 2001 to approximately 25 percent of program costs by FY 2004. The ETV program has been reviewed twice by EPA's SAB since its inception in 1995. During the second review, the SAB concluded with this remark: "The scarcity of independent and credible technology verification information is one critical barrier to the use of innovative environmental technologies. Therefore, the verification testing information that is provided by the ETV program fulfills an essential need of the environmental technology marketplace."

By the end of FY 2004, the ETV program will have verified over 260 technologies since program inception. It will have also developed over 70 generic testing protocols for the entire research and testing community, and will have data on their performance available for public use. Technology verifications during FY 2004 will focus on advanced monitoring; air pollution control; greenhouse gas abatement; drinking water systems; and water protection. EPA will continue to enhance program outreach efforts through the ETV website, national conferences and workshops, and state permit writer training. ETV is also providing technology verifications during FY 2002 in water security and building decontamination as part of EPA's Homeland Security efforts.

Homeland Security

Research in the areas of water security and rapid risk assessment will support the award of contracts to small business with technologies that advance the Agency's homeland security research program, via the Small Business Innovation Research (SBIR) program. Emphasis will be placed on: developing and testing technologies to detect, contain, decontaminate, and dispose of chemical and biological contaminants as well as developing practices and procedures that

provide rapid risk assessment protocols for chemical and biological agents. Current ETV project managers will shift a portion of their time away from existing ETV programs to focus more attention on the ETV component of the Building Homeland Security program.

FY 2004 Change from FY 2003 Request

S&T

- (+\$487,500) This increase relates to resources set aside for the Small Business Innovation Research (SBIR) Program. This includes the S&T appropriation portion of the \$25,000,000 Homeland Security resources in FY 2004.
- (-\$6,700,000) This decrease represents a partial reduction to funding for the National Environmental Technology Competition (NETC) program. The remaining funds will be used to solicit and award technologies for arsenic removal in drinking water. These technologies will be aimed at assisting small community water suppliers meet the new arsenic drinking water standard by FY 2006.
- (-\$917,700, -4.6 FTE) This reduction represents resources redirected to support the new Homeland Security Research Center. Research efforts within the Environmental Technology Verification (ETV) program will be shifted away from evaluating new technologies to prevent emissions from indoor sources and greenhouse gases toward addressing disposal issues associated with building materials contaminated by biological or chemical agents.
- (-\$400,000) This reduction affects the Technology for Sustainable Environment (TSE) program conducted in partnership with NSF. Specifically, research to develop and communicate risk-based design tools for industrial processes using the industrial ecology concept will be delayed. These resources will be redirected to Goal 8 Objective 2 to support the National Children's Study.
- (-\$223,200, -2.0 FTE) This reduction represents resources redirected to support Computational Toxicology work under Goal 8 Objective 3. This redirection from pollution prevention research will result in delays to ongoing research into innovative life cycle analysis and impact assessment tools used by decision makers evaluating alternative products and processes. This redirection is not expected to impact performance commitments in FY 2004.

Superfund

- (-\$1,725,000) This reduction for SBIR in the Superfund appropriation reflects the reduced resources for Homeland Security in the FY 2004 President's Budget.

EPM

- (+\$553,000, +2.3 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: SOUND SCIENCE, IMPROVED UNDERSTANDING OF ENV. RISK AND GREATER INNOVATION TO ADDRESS ENV. PROBLEMS

OBJECTIVE: IMPROVE ENVIRONMENTAL SYSTEMS MANAGEMENT.

Annual Performance Goals and Measures

Research

New Technologies

- In 2004 Verify 35 air, water, greenhouse gas, and monitoring technologies so that States, technology purchasers, and the public will have highly credible data and performance analyses on which to make technology selection decisions.
- In 2003 Develop 10 testing protocols and complete 40 technology verifications for a cumulative Environmental Technology Verification (ETV) program total of 230 to aid industry, states, and consumers in choosing effective technologies to protect the public and environment from high risk pollutants.
- In 2002 EPA formalized generic testing protocols for technology performance verification, and provided additional performance verifications of pollution prevention, control and monitoring technologies in all environmental media.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Complete 20 stakeholder approved and peer-reviewed test protocols in all environmental technology categories under ETV, and provide them to testing organizations world-wide.	20			protocols
Verify and provide information to States, technology purchasers, and the public on 40 air, water, pollution prevention and monitoring technologies for an ETV programmatic total of 230 verifications.		40		verifications
Complete an additional 10 stakeholder approved and peer-reviewed test protocols in all environmental technology categories under ETV, and provide them to international testing organizations.		10		protocols
Through the ETV program, verify the performance of 35 commercial-ready environmental technologies.			35	verifications

Baseline: Actual environmental risk reduction is directly related to performance and effectiveness of environmental technologies purchased and used. Private sector technology developers produce almost all the new technologies purchased in the US and around the world. Purchasers and permittees of environmental technologies need an independent, objective, high quality source of performance information in order to make more informed decisions; and vendors with innovative, improved, faster and cheaper environmental technologies need a reliable source of independent evaluation to be able to penetrate the environmental technology market. In FY 2004, the Environmental Technology Verification (ETV) program will verify 35 additional technologies for a programmatic total of over 250 verifications, making data on their pending performance available for public use as well.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Through the Environmental Technology Verification (ETV) program, verify the performance of 35 commercial-ready environmental technologies.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures:

Verifications consist of the following steps:

- 1) based on generic verification protocols if available, the specific test/QA plan for each product is developed and agreed to by EPA, the testing partner, and the vendors;
- 2) the product is tested using the procedures outlined in the test/QA plan;
- 3) audits of the test event are conducted by EPA and the partners, and rigorous QA evaluations of the resulting test data are performed;
- 4) after testing and analysis, the partner drafts the verification statements and reports which are reviewed by EPA, the participating vendors, and peer reviewers; and
- 5) after addressing review comments and receiving approval from EPA management, EPA and the partner sign the verification statements.

Data Quality Reviews: Verifications

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

Coordination with Other Agencies

In partnership with the National Science Foundation (NSF), EPA's Technology for a Sustainable Environment (TSE) program supports the development of cutting-edge pollution prevention technology through chemistry, chemical engineering, industrial ecology, and manufacturing. The EPA/NSF partnership in TSE is entering its seventh year of supporting research to prevent pollution at its source. Under the Persistent Bioaccumulative Toxics (PBT) program, EPA has been working with the U.S. Geological Survey (USGS), the National Oceanic and Atmospheric Administration (NOAA), and the Centers for Disease Control and Prevention (CDC) to develop a national routine PBT monitoring strategy. Through the integration of existing monitoring programs, this new strategy will ultimately meet the mutual monitoring objectives of EPA and other Federal agencies.

EPA has contributed projects to the Department of Defense's (DOD's) Strategic Environmental Research and Development Program (SERDP), with particular emphasis on the pollution prevention pillar and the use of lifecycle thinking in addressing the production and manufacture of weapons and military hardware. Preliminary contacts have been made with the Department of Agriculture (USDA) regarding lifecycle analysis and a preventive approach for the development and advancement of biologically and genetically-altered products. Additionally, EPA and DOD's U.S. Army Corps of Engineers will continue addressing the costs and benefits associated with the implementation of new engineering projects and technologies in order to understand and respond to the economic impacts of environmental innovation.

With respect to the Environmental Technology Verification (ETV) program, EPA has co-funded efforts to verify the performance of site characterization and monitoring devices with the Department of Energy's (DOE) Sandia and Oak Ridge National Laboratories. EPA signed a Memorandum of Agreement with DOD to verify jointly environmental technologies that are of mutual interest to EPA and DOD's Environmental Science and Technology Evaluation program. In June 2001, the U.S. Coast Guard (USCG) and EPA signed a Memorandum of Agreement to verify jointly the performance of innovative environmental technologies to control ballast water discharges that may contain invasive species and that have had significant and adverse economical and ecological impacts.

Statutory Authorities

Clean Air Act

Safe Drinking Water Act

Clean Water Act

Toxic Substances Control Act

Federal Insecticide, Fungicide, and Rodenticide Act

Resource Conservation and Recovery Act

Superfund Amendments Reauthorization Act

Clean Air Act Amendments of 1990

Pollution Prevention Act of 1990

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

**Sound Science, Improved Understanding of Env. Risk and Greater Innovation to Address
Env. Problems**

Objective: Quantify Environmental Results of Partnership Approaches.

Increase partnership-based projects with counties, cities, states, tribes, resource conservation districts, and/or bioregions, bringing together needed external and internal stakeholders, and quantify the tangible and sustainable environmental results of integrated, holistic, partnership approaches.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Quantify Environmental Results of Partnership Approaches.	\$9,276.2	\$9,058.4	\$9,036.8	(\$21.6)
Environmental Program & Management	\$9,276.2	\$9,058.4	\$9,036.8	(\$21.6)
Total Workyears	20.6	18.0	16.6	-1.4

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Congressionally Mandated Projects	\$700.0	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and Operations	\$215.6	\$241.9	\$222.6	(\$19.3)
Legal Services	\$47.3	\$53.3	\$55.4	\$2.1
Management Services and Stewardship	\$100.6	\$112.1	\$3.1	(\$109.0)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Regional Geographic Program	\$7,609.2	\$8,651.1	\$8,755.7	\$104.6

FY 2004 Request

The Regional Geographic Initiative Program (RGI) is an effective tool that the Agency's Regional offices use to achieve a balance between flexibility in responding to state and local needs while adhering to national priorities. The issues addressed by this program are often multi-media in nature and showcase innovative solutions. Many RGI projects are critical components of larger Agency programs and the Regions use RGI to further such initiatives as children's health, watersheds, clear skies, and environmental stewardship.

The value returned by projects funded through the RGI Program are:

- increased flexibility to respond to strategic regional, state, and local priorities outside traditional EPA program boundaries;
- additional "leveraged" funds from states, localities, non-profit, private, and other sources that contribute to environmental improvement;
- enhanced innovation;
- holistic, multi-media and/or cross programmatic approaches to solving environmental programs;
- increased focus on environmental outcomes, rather than activity measures; and
- added stakeholder involvement and participation in project development and implementation.

In FY 2002, the environmental projects supported by the RGI Program received an average of \$14 from our environmental partners for every \$1 received from the RGI program. This 14-to-1 ratio is a noteworthy level of leveraging that emphasizes the environmental benefits of forming partnerships to implement the projects funded by this program.

Working with communities to find cost effective solutions that work for them, ensuring involvement of all stakeholders in the process, and leveraging resources from federal, state and private sectors are all critical components of the RGI program. The success of the RGI approach in resolving environmental and health issues supports Agency priorities as we continue to move beyond single-media approaches. In addition, the RGI program provides an essential tool for the

regions in the continuing evolution of their role as program implementers with a focus on finding innovative solutions to complex environmental problems.

FY 2004 Change from FY 2003 Request

EPM

- (-\$128,300, -1.4 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

There are increases for payroll, cost of living and enrichment for new and existing FTE.

Statutory Authorities

Multi-Media

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Sound Science, Improved Understanding of Env. Risk and Greater Innovation to Address Env. Problems

Objective: Incorporate Innovative Approaches.

Incorporate innovative approaches to environmental management into EPA programs, so that EPA and external partners achieve greater and more cost-effective public health and environmental protection.

Resource Summary (Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Incorporate Innovative Approaches.	\$26,070.7	\$29,787.9	\$31,939.0	\$2,151.1
Environmental Program & Management	\$25,720.7	\$29,787.9	\$31,939.0	\$2,151.1
Science & Technology	\$350.0	\$0.0	\$0.0	\$0.0
Total Workyears	112.9	126.7	127.4	0.7

Key Program (Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Common Sense Initiative	\$1,838.7	\$0.0	\$0.0	\$0.0
Congressionally Mandated Projects	\$1,000.0	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and Operations	\$1,784.4	\$1,821.7	\$2,143.8	\$322.1
Legal Services	\$380.3	\$409.3	\$427.1	\$17.8

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Management Services and Stewardship	\$186.1	\$168.7	\$244.0	\$75.3
Performance Track	\$1,834.6	\$1,834.6	\$1,834.6	\$0.0
Regulatory Development	\$13,251.3	\$22,429.6	\$24,140.8	\$1,711.2
Small Business Ombudsman	\$3,049.1	\$3,124.0	\$3,148.7	\$24.7

FY 2004 Request

The Agency will continue critical effort to improve the Agency's regulatory and policy development process. In 2004, the Agency will strengthen the policy analysis of key regulatory and non-regulatory actions, improve the economic analysis underlying Agency actions, and enhance the regulatory and policy action information management system. The multimedia analysis will include policy option analysis, regulatory analysis, and analysis of innovative policy approaches. Work will also be directed at strengthening accountability to stakeholders by improving the quality and availability of regulatory data to stakeholders.

In 2004, EPA will continue to ensure that better information is available to Agency decision-makers, including consideration of a broader set of policy options for priority regulations and policy development activities. Particular areas of concentration will be on ensuring appropriate management attention throughout the development process, appropriate cross-office participation in priority rule makings, and better analytic research (e.g., economic, policy, science and legal) planning. EPA will conduct cross-media and strategic policy analysis on crosscutting policy areas to identify more cost-effective and innovative approaches. In addition, the Agency will concentrate on identifying alternatives that improve the environment with the least disruption or cost to the economy. EPA will improve management accountability related to regulation and policy development by incorporating performance measures into its regulatory and policy development tracking system.

Another priority will be to implement the commitments and address the focus areas included in the elements of the Agency's Innovation Strategy, a broad-based, Agency-wide strategy for achieving better results from environmental programs at less cost. Specifically, work in 2004 will include further integrating State innovation efforts; developing new tools and approaches; adapting the culture and management systems to foster innovation; and focusing on measuring and evaluating results and moving successful innovations into broader application in policies and regulations.

In support of the Innovations Strategy, EPA is establishing a competitive grant assistance program that will support state innovation projects. This program is a major effort to direct

innovation toward solving critical environmental problems and to develop a compelling set of innovative management and technological tools. This competitive grant assistance program will focus on strategic goals, identified through a collegial process involving states and EPA's regional offices, and designed to target specific problems that are inhibiting states from achieving superior environmental results. The program will leverage state funds as a criterion for grant selection.

In support of developing new tools and approaches, EPA will pursue assistance programs and promote stewardship and independent environmental responsibility in sectors, facilities, and communities. In the course of this work, the Agency will continue to work closely with states, tribes, and local governments, and will pay particular attention to the needs of small- and medium-sized businesses.

The Innovations Strategy also charges EPA to adapt its culture and management processes to foster innovation. EPA will invest in developing a more structured system of organizational learning to gain the maximum benefit from innovative efforts. EPA is continuing to explore changes in organizational systems that may address ingrained, cultural resistance to innovation. Such changes may run the gamut from strengthening public involvement in Agency decision-making, to finding creative ways of directing resources to support entrepreneurial, innovative initiatives, to recognizing and rewarding innovators across the Agency.

The Innovations Strategy highlights the importance of effecting system change so as to make full use of innovations that have been tested and found promising. Such system change may take the form of improvements in specific regulatory programs (potentially impacting the results and outcomes planned in most of the Agency's goals). It may also involve more ambitious changes from current approaches: for example, promoting the use of a sector-based, multi-media approach for addressing small sources based on the Massachusetts Environmental Results Program.

A newly invigorated sectors strategies program will promote enhanced environmental performance in a broad array of high-priority industries. The Agency will complement current EPA activities by using holistic, cross-media approaches for each industry sector. The sector-based approach will enable EPA to tailor efforts to the particular characteristics and needs of each sector and craft innovative approaches to solve environmental problems. In 2004, EPA will continue to work with its state co-regulators to encourage industry development of environmental management systems and initiate other projects to foster continuous improvement in environmental performance. EPA will address major innovation and performance barriers with specific industries. The Agency will use sector programs to bridge the gap between innovative pilots and mainstream program change, as well as build consideration of sector-specific solutions into the development of regulations and policy/guidance documents. The Agency will then disseminate recommended tools and services through SectorStar.

In the process of developing sector approaches, EPA will continue to add to the set of tools it uses to effectively and efficiently deliver environmental quality, promote pollution

prevention, and increase risk reduction. EPA will continue to rely on compliance assurance, voluntary programs, stakeholder involvement, and new sector-based approaches to ensure quicker, more reliable, and more effective results than those attained solely through the traditional tools of standard setting, permitting and enforcement. In support of these strategies, EPA will continue to implement projects that offer flexibility or other benefits to test innovative approaches to environmental protection.

EPA is receiving a large and growing number of requests from states, local governments, the private sector, and non-governmental organizations for assistance in addressing the environmental issues associated with growth and development. The Agency will continue to help state and local governments, as well as communities, achieve their environmental goals using smart growth approaches. Smart growth approaches will be integrated into environmental improvement efforts across the Agency. EPA will also develop regulatory incentives that will encourage redevelopment within metropolitan areas and help preserve watersheds, open spaces, and habitats. These incentives will also encourage more environmentally friendly development in rural areas.

In 2004, EPA will continue to implement and expand the National Environmental Performance Track program. The Agency will increase the value of participation in Performance Track by enhancing the benefits and services that members receive. These enhancements will reduce administrative burdens on facilities due to the Agency's issuance of the final Phase I rulemaking. The Agency will also enhance the value of Performance Track as a learning network by completing a "Best Practices" database of innovative practices and tools and by expanding its regional networking for diffusing information about best practices among participants.

EPA will work to deliver proposed regulatory incentives to top environmental performers. The Agency will further explore and develop new regulatory incentives and opportunities for information exchange to encourage better environmental performance. EPA will continue to work with states through pilots, Memoranda of Agreements, and other vehicles to help develop state capacity and cooperation to implement Performance Track and equivalent state programs. EPA will consider incentive projects suggested by internal or external stakeholders, and will work with program offices to foster flexibility in regulations, policy, and guidance and continue reforms in the permitting system. The Agency will continue to conduct application reviews and compliance screens to ensure quality members; site visits to ensure that facilities continue to perform as stated in their applications; and program measurement and reporting to demonstrate the environmental benefits achieved through superior facility performance. EPA also will explore the development of a program to recognize and reward organizations that are truly environmental stewards in terms of their business practices, environmental performance, and public outreach.

EPA's community-based approach works to provide integrated assessment tools and information for environmental protection in partnership with local, state, and Tribal governments. EPA's Regions also provide direct assistance to communities to assist them in

implementing local environmental management efforts and in building capacity for local problem solving. In 2004, EPA will assist local communities with identifying measures of performance and will conduct evaluations of existing projects.

During 2004, the Agency will encourage the widespread use of Environmental Management Systems (EMS) across a wide range of organizations and settings. The Agency will develop additional experience to determine how EMS can help business and government to improve their compliance record, promote "beyond compliance" environmental performance, and improve operational efficiencies. EPA will integrate EMS approaches into several of its assistance and collaborative programs, including Sector Strategies, Performance Track, and Small Business. EPA will build capacity to implement performance-based EMS within EPA, other federal agencies, state and local governments, and the business community.

FY 2004 Change from FY 2003 Request

EPM

- (+\$1,500,000) This request will fund competitive assistance agreements that support state innovation projects.
- (+\$397,400, +0.7 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

There are additional increases for payroll, cost of living and enrichment for new and existing FTE.

Statutory Authorities

National Environmental Policy Act

The Economy Act of 1932

Toxic Substances Control Act sections 4, 5, and 6 (15 U.S.C. 2603, 2604, and 2605)

Pollution Prevention Act (42 U.S.C. 13101-13109)

Clean Water Act

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Sound Science, Improved Understanding of Env. Risk and Greater Innovation to Address Env. Problems

Objective: Demonstrate Regional Capability to Assist Environmental Decision Making.

Demonstrate regional capability to assist environmental decision making by assessing environmental conditions and trends, health and ecological risks, and the environmental effectiveness of management action in priority geographic areas.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Demonstrate Regional Capability to Assist Environmental Decision Making.	\$6,088.7	\$6,591.8	\$6,607.6	\$15.8
Environmental Program & Management	\$3,284.8	\$3,647.1	\$3,662.9	\$15.8
Hazardous Substance Superfund	\$2,803.9	\$2,944.7	\$2,944.7	\$0.0
Total Workyears	2.0	3.0	3.0	0.0

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Facilities Infrastructure and Operations	\$156.1	\$43.6	\$50.8	\$7.2
Management Services and Stewardship	\$2.2	\$1.7	\$2.9	\$1.2
Regional Science and Technology	\$3,574.9	\$3,601.8	\$3,609.2	\$7.4
Superfund Remedial Actions	\$2,944.7	\$2,944.7	\$2,944.7	\$0.0

FY 2004 Request

This request supports the capital budget for acquisition of laboratory and field equipment for the Regional Science and Technology (RS&T) Program. RS&T activities support all of the Agency's national programs and goals. In FY 2004, the laboratory equipment will provide support for Regional implementation of the Agency's statutory mandates through:

- Field Operations for environmental sampling and monitoring,
- Regional Laboratories for environmental analytical testing,
- Quality Assurance oversight and data management support, and
- Laboratory Accreditation.

The Field Operations Unit is responsible for sample collection with established protocols for chain-of-custody documentation. The regional laboratories offer a full range of routine and special chemical and biological testing and/or monitoring in support of regional and national programs including air, water, pesticides, toxics, hazardous waste, ambient monitoring, compliance monitoring, criminal and civil enforcement and special projects. Also, environmental assessments and reports are generated for a specific location, area, or region of the country from information collected and laboratory analysis completed by the Field Operations Unit. The Agency begins the process for developing our State of the Environment Reports by collecting data using established protocols and chain-of-custody procedures and documentation. High quality data and analysis is the foundation for a national report on the state of the environment that helps identify priorities, focus resources on areas of greatest concern and manage our work to achieve measurable results. Quality Assurance and Sampling Protocol Plans are developed for each sample prior to analyses being completed or samples being collected. Field Operations takes the initial charge of supplying and collecting quality analytical data, including hazardous waste sampling and sampling required in criminal cases. On a longer-term basis, this Unit conducts the critical functions of ambient and compliance monitoring, and provides training and technical assistance in a variety of fields.

The RS&T Program provides in-house scientific expertise and technical capabilities in the generation of data for Agency decisions, and in response to emergencies. RS&T divisions support the development of critical and timely data and data review activities. This expertise is also utilized in oversight of state and private laboratory certification for the National Drinking Water Program. The scientific expertise is used to provide advice, expert testimony, and critical environmental analyses in Regional and National program decisions, and civil and criminal litigation and enforcement cases.

Within the Regional Laboratory system, specialized expertise has been developed to respond to specific Regional needs. These capabilities, collectively called the Centers of Applied Science, have broad application and frequently constitute the best knowledge of applied science in the country. Through these Centers of Applied Science, the Regional laboratories are committed to advancing state-of-the-art applied science and sharing that information with state,

local, and other federal agencies through training and other appropriate forums. The Centers have been established in the areas of ambient air monitoring, analytical pollution prevention, environmental biology, environmental microbiology, and environmental chemistry. At these centers, the Agency establishes, by means of scientific data, the State of the Environment Reports for a geographic location, area, or region of the country.

Quality Assurance activities ensure that data and information management systems, including data quality indicators, will be in place to enable EPA and partner agencies to locate, assess, and share environmental data for their program needs. Quality assurance also ensures that data collected for our State of the Environment Reports meets recognized levels of quality from sampling procedures, data documentation, analytical methodology, protocol, and/or statutory guidelines.

RS&T's support of the National Environmental Laboratory Accreditation Program allows for continued confidence that states, local, federal, private and academic environmental testing laboratories are qualified to meet their respective efforts in our goal for equitable environmental compliance at all levels within the environmental regulatory community.

The fast pace of emerging technologies and science requires that the RS&T Program stay at the forefront of new analytical procedures and equipment. An important aspect of its mission is the development and adaptation of analytical methods and procedures. Moreover, this capability serves as the basis for technical advice and assistance to our partner agencies in federal, state, and local government.

FY 2004 Change from FY 2003 Request

There are increases for payroll, cost of living and enrichment for new and existing FTE.

Coordination with Other Agencies

In preparation for catastrophic events, the RS&T Program is developing a chemical analytical response network with state, local and academic laboratory systems. It is also collaborating with the National Guard Civil Support Teams across the nation, and with the Centers for Disease Control. The nexus of this coordination is the front line analytical capability of the RS&T laboratories.

Statutory Authorities

Multi-Media

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

**Sound Science, Improved Understanding of Env. Risk and Greater Innovation to Address
Env. Problems**

Objective: Conduct Peer Review to Improve Agency Decisions.

Conduct peer reviews and provide other guidance to improve the production and use of the science underlying Agency decisions.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Conduct Peer Review to Improve Agency Decisions.	\$3,070.0	\$3,690.3	\$4,811.1	\$1,120.8
Environmental Program & Management	\$3,070.0	\$3,690.3	\$4,811.1	\$1,120.8
Total Workyears	19.8	22.5	22.5	0.0

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Facilities Infrastructure and Operations	\$340.2	\$326.5	\$383.4	\$56.9
Management Services and Stewardship	\$14.9	\$11.3	\$18.7	\$7.4
Science Advisory Board	\$2,887.8	\$3,352.5	\$4,409.0	\$1,056.5

FY 2004 Request

For many years, the goal of the U.S. Environmental Protection Agency's (EPA's) Science Advisory Board (SAB) has been to make a positive difference in the production and use of science at EPA. Established by Congress in 1978, the SAB utilizes non-government technical experts who serve as its 112 members and more than 300 consultants. They come from a broad range of disciplines -- physics, chemistry, biology, mathematics, engineering, ecology, economics, medicine, and other fields. Operating under the Federal Advisory Committee Act (FACA), the SAB empanels technically strong and diverse groups to ensure a balanced range of views from academia, communities, states, independent research institutions, and industry.

In 2004, the EPA SAB plans to enhance its mission by focusing on priority environmental issues that greatly impact overall environmental protection, address novel problems or principles, influence long-term technological development, deal with problems that transcend Agency boundaries, strengthen the Agency's basic capabilities, and/or serve congressional and other leadership interests. The Agency will also provide additional funding to increase public communications and outreach by enhancing website design and presentation of panel information, issue development, and meeting planning.

The Board also recognizes that economic and other social science issues are particularly important, given that EPA has generated new information-based, voluntary approaches to environmental protection -- such as working with stakeholders in communities and sectors to achieve environmental goals that voluntarily go beyond regulatory activities. The SAB initiated a lecture series, "Science and the Human Side of Environmental Protection" to highlight how the social sciences can help solve actual environmental problems.

Additionally, the SAB staff office supports the President's Management Agenda on Competitive Sourcing and has evaluated staff operations and identified several functions that are currently performed by our administrative and technical staff that could be performed by the private sector. Four workyears have been identified for direct conversion to contractors. The direct conversion to contractors will be effective in FY 2003 and beyond. The SAB's attention to competitive sourcing has led to a management review of overall staff operations. The office is in the process of developing an effective human capital strategy, a government-wide initiative that will better identify our human capital needs and how we will acquire, develop, and deploy our human capital to better align our organizational objectives with EPA's mission and goals.

FY 2004 Change from FY 2003 Request

EPM

- (+\$1,000,000) This request will allow the Science Advisory Board (SAB) to initiate an evaluation of the Board's ability to promote the use of sound science at EPA. Further, this request will allow the Board to better meet the needs of its customers by increasing outreach activities and making communications more transparent.

There are additional increases for payroll, cost of living and enrichment for new and existing FTE.

Coordination with Other Agencies

The EPA SAB interacts with comparable advisory bodies within and outside the Agency; in some cases seeking and maintaining liaison and integrated membership with some of these bodies. For example, the chairs of the Office of Research and Development's Board of Scientific Counselors (BOSC), the Federal Insecticide, Fungicide, and Rodenticide Act's Scientific Advisory Panel, and the Children's Health Protection Advisory Committee participate in the quarterly meetings of the SAB Executive Committee meetings. There are also membership contacts and exchanges with technical advisory bodies in the Department of Defense, Department of Energy, and the National Research Council of the National Academy of Sciences. In addition, the SAB has sought interactions with advisory groups at different levels (e.g., the advisory committee to the Mayor of Columbus, Ohio; the environmental advisory board to the Governor of the State of Michigan; the Health Council of the Netherlands; and the Academy of Sciences of Australia). The success of the SAB is measured, in part, by the extent to which the Board is used as a model for advisory boards at various levels of government -- from the local to the international level.

Statutory Authorities

Federal Advisory Committee Act (5 U.S.C. App.)

Environmental Research, Development, and Demonstration Authorization Act of 1978

Clean Air Act of 1977 and 1990.

Goal 9: Credible Deterrent

**Environmental Protection Agency
2004 Annual Performance Plan and Congressional Justification
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Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

A Credible Deterrent to Pollution and Greater Compliance with the Law

Strategic Goal: EPA will ensure full compliance with laws intended to protect public health and the environment.

Resource Summary (Dollars in thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
A Credible Deterrent to Pollution and Greater Compliance with the Law	\$398,150.1	\$402,462.9	\$430,560.5	\$28,097.6
Increase Compliance Through Enforcement.	\$344,680.1	\$346,590.5	\$372,173.1	\$25,582.6
Promote Compliance Through Incentives and Assistance.	\$53,470.0	\$55,872.4	\$58,387.4	\$2,515.0
Total Workyears	2,434.8	2,330.7	2,480.4	149.7

Background and Context

Protecting public health and the environment from risks posed by violations of federal environmental requirements is basic to EPA's mission. EPA's compliance and enforcement program has been the centerpiece of efforts to ensure compliance, and has achieved significant improvements in human health and the environment. Access to information about compliance with environmental regulations and its impact on environmental conditions and human health helps inform decision making of both regulators and the public in assessing the general environmental health of communities.

Many of the environmental improvements in this country during the past 30 years can be attributed to a strong set of environmental laws and EPA's efforts to ensure compliance with those laws using tools including enforcement, compliance monitoring, compliance assistance, and compliance incentives. The combination of these tools, in cooperation with our regulatory partners, provide a broad scope of actions designed to bring about the protection of public health and the environment.

Means and Strategies

Due to the breadth and diversity of private, public, and federal facilities regulated by EPA under various statutes, the Agency must target its enforcement and compliance assurance

activities strategically to address the most significant risks to human health and the environment and to ensure that certain populations do not bear a disproportionate environmental burden. A strong enforcement program identifies and reduces noncompliance problems, assists the regulated community in understanding environmental laws and regulations, responds to complaints from the public, strives to secure a level economic playing field for law-abiding companies, and deters future violations. EPA's continued enforcement efforts will be strengthened through the development of measures to assess the impact of enforcement activities and assist in targeting areas that pose the greatest risks to human health or the environment, display patterns of noncompliance, and include disproportionately exposed populations. Further, EPA cooperates with states and other nations to enforce and ensure compliance with cross-border environmental regulations.

The Agency reviews and evaluates the activities of the regulated community to determine compliance with applicable laws, regulations, permit conditions and settlement agreements and to determine whether conditions presenting imminent and substantial endangerment exist. The majority of workyears devoted to compliance monitoring are provided to the regions to conduct investigations and on-site inspections including monitoring, sampling and emissions testing. Compliance monitoring activities are both environmental media- and sector-based. The traditional media-based inspections compliment those performed by states and tribes and are a key part of our strategy for meeting the long-term and annual goals established for the air, water, pesticides, toxic substances, and hazardous waste environmental goals included in the EPA Strategic Plan.

In addition, the EPA's enforcement program supports the environmental justice efforts by focusing enforcement actions and criminal investigations on industries that have repeatedly violated environmental laws in minority and/or low-income areas.

The Agency's enforcement and compliance assurance program uses compliance assistance and incentive tools to encourage compliance with regulatory requirements and reduce adverse public health and environmental problems. To achieve compliance, the regulated community must understand its regulatory obligations and how to comply with those obligations. EPA supports the regulated communities by assuring that requirements are clearly understood and by helping industry discover cost-effective options to comply through the use of pollution prevention and innovative technologies. EPA also enables other assistance providers (e.g., states, universities) to provide compliance information to the regulated community. Maximum compliance requires the active efforts of the regulated community to police itself. EPA will continue to investigate options for encouraging self-directed audits and disclosure; measure and evaluate the effectiveness of Agency programs in improving compliance rates; provide information and compliance assistance to the regulated community; and develop innovative approaches to meeting environmental standards through better communication, cooperative approaches and application of new technologies.

State, tribal and local governments bear much of the responsibility for ensuring compliance, and EPA works in partnership with them and other Federal agencies to promote environmental protection. EPA also cooperates with other nations to enforce and ensure compliance with environmental regulations. At the Federal level, EPA addresses its Federal

responsibilities under the National Environmental Policy Act (NEPA) by seeking remedies for potentially adverse impacts of major actions taken by EPA and other Federal agencies.

EPA will continue to ensure the security and integrity of its compliance information systems. Efforts will be made to upgrade computer systems, databases, and tracking systems to enable the Agency to respond to increasing demands for compliance and environmental information. The Agency will greatly facilitate the exchange of compliance and permitting information in the National Pollutant Discharge Elimination System (NPDES) program with the states and tribes through a modernized information system.

The Enforcement and Compliance Program will continue to contribute to the Agency-wide Access to Interpretive Documents (AID) project. This project is intended to make all significant Agency guidance, policy statements and site-specific interpretations of the regulated entities' environmental management practices electronically accessible to the regions, states, industry and the public.

The Administration's evaluation of civil enforcement in the PART process found that outcomes could not easily be determined for this program. However, with better long term and annual outcome performance measures, program planning could be adjusted to achieve more effective results. Therefore, as part of the development of the new Strategic Plan, both goals and outcome oriented performance measures will be developed. A second finding reiterated other evaluations that had concerns about data collection and management. As a result, \$5 million is proposed for an improved compliance data system.

Strategic Objectives

- Increase Compliance Through Enforcement
- Promote Compliance Through Incentives and Assistance

Highlights

Environmental Enforcement

The civil and criminal enforcement program, in contributing to EPA's mission to protect public health and the environment, aims to level the economic playing field by ensuring that violators do not realize an economic benefit from noncompliance and seeks to deter future violations.

Coordinating its activities with the states, EPA will continue to support deterrence and compliance activities by focusing its compliance monitoring on site inspections and investigations. In setting Federal compliance and enforcement priorities and strategic direction of the program, EPA coordinates its efforts with and solicits the views of our states partners. The Agency works with the Environmental Council of States (ECOS) as a vehicle to advance the coordination of efforts and to promote joint strategic planning between EPA and the states.

The Agency will continue to work with states and tribes to target areas that pose risks to human health or the environment, display patterns of noncompliance, or include disproportionately exposed populations. Media-specific, industry sector and problem-based priorities will be established for the national program through the Office of Enforcement and Compliance Assurance's Memorandum of Agreement 2004/2005 guidance, developed in conjunction with the Regional offices.

Homeland Security

The Agency's Criminal Enforcement program has lead responsibility within EPA for coordinating law enforcement activities and delivering environmental crimes expertise necessary to support federal, state, local, and tribal law enforcement homeland security planning and operational activities. In FY 2004, special agents will continue to provide environmental crimes expertise to various Federal task forces and response teams.

State, Tribal, and International Capacity Building

A strong state and tribal compliance and enforcement presence contributes to creating deterrence and to reducing noncompliance. In FY 2004, the enforcement and compliance assurance programs will work with and support state agencies implementing Environmental Management Systems. Members of the environmental justice community will have increased and improved access to data and information they need to hold facilities and local government managers accountable for meeting their goals.

Environmental Justice

EPA's environmental justice program will continue education, outreach, and data availability initiatives. The Program provides a central point for the Agency to address environmental and human health concerns in minority and/or low-income communities--a segment of the population that have been disproportionately exposed to environmental harm and risk. The program will continue to manage the Agency's Environmental Justice Community Small Grants program that assists community-based organizations that are working to develop solutions to local environmental issues.

The Agency will continue to support the National Environmental Justice Advisory Council (NEJAC) which provides the Agency significant input from interested stakeholders such as community-based organizations, business and industry, academic institutions, state, Tribal and local governments, non-governmental organizations and environmental groups. The Agency will also continue to chair an Interagency Working Group (IWG) consisting of eleven departments and agencies as well as White House offices to ensure that environmental justice concerns are incorporated into all Federal programs.

Compliance Incentives and Assistance

EPA will continue to maintain the regulated community's compliance with environmental requirements through voluntary compliance incentives and assistance programs.

In FY 2004, the compliance incentives program will continue to implement the policy on Incentives for Self-Policing, the Small Business Compliance Policy, and the Small Communities Policy as core elements of the enforcement and compliance assurance program. Through the compliance assistance program the Agency will provide information and technical assistance to the regulated community to increase its understanding of all statutory and regulatory environmental requirements, thereby reducing risk to human health and the environment and gaining measurable improvements in compliance. The program will also continue to develop strategies and assistance tools that will improve compliance in specific industrial and commercial sectors or with certain regulatory requirements. The annual Compliance Assistance Activity Plan provides information on planned compliance assistance activities in the upcoming fiscal year and will serve as a reference for other assistance providers and the public on EPA's planned tools and activities.

In FY 2004, the Agency will continue to support the sector based Compliance Assistance Centers, update the Compliance Clearinghouse, sponsor a Federal advisory committee on compliance assistance and will continue to develop and enhance a "Platform" from which to launch additional assistance centers. In addition, EPA will begin to work with partners to develop three new Centers. Possible candidates include a tribal center, centers for schools, and the plastics industry. The Centers are a key component of EPA's efforts to help small and medium-sized businesses and governments better understand and comply with Federal environmental requirements.

External Factors

The Agency enforcement and compliance program's ability to meet its annual performance goals may be affected by a number of factors. Projected performance could be impacted by natural catastrophes, such as major floods or significant chemical spills, that require a redirection of resources to address immediate environmental threats. Many of the targets are coordinated with and predicated on the assumption that state and tribal partners will continue or increase their levels of enforcement and compliance work. In addition, EPA's enforcement relies on the Department of Justice to accept and prosecute cases. The success of EPA's activities hinges on the availability and applicability of technology and information systems. Finally, the regulated community's willingness to comply with the law will greatly influence EPA's ability to meet its performance goals.

Other factors, such as the number of projects subject to scoping requirements initiated by other federal agencies, the number of draft/final documents (Environmental Assessments and Environmental Impact Statements) submitted to EPA for review, streamlining requirements of the Transportation Equity Act for the 21st Century (TEA-21), and the responsiveness of other federal agencies to environmental concerns raised by EPA, may also impact the Agency's ability to meet its performance goals. The NEPA Compliance workload is driven by the number of project proposals submitted to EPA for funding or NPDES permits that require NEPA compliance, including the Congressional projects for wastewater, water supply and solid waste collection facility grants which have increased in recent years.

Finally, our evolving user community will also affect the success of our information efforts. As more states and Tribes develop the ability to integrate their environmental information, we must adjust EPA's systems to ensure that we are able to receive and process reports from states and industry under Agency statutory requirements. Local citizens organizations and the public at large are also increasingly involved in environmental decision-making, and their need for information and more sophisticated analytical tools is growing.

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

A Credible Deterrent to Pollution and Greater Compliance with the Law

Objective: Increase Compliance Through Enforcement.

EPA and its state, tribal, and local partners will improve the environment and protect public health by increasing compliance with environmental laws through a strong enforcement presence.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Increase Compliance Through Enforcement.	\$344,680.1	\$346,590.5	\$372,173.1	\$25,582.6
Environmental Program & Management	\$248,431.2	\$233,721.7	\$272,507.2	\$38,785.5
Hazardous Substance Superfund	\$17,075.6	\$18,687.9	\$19,148.7	\$460.8
Science & Technology	\$10,429.7	\$11,269.5	\$12,562.5	\$1,293.0
State and Tribal Assistance Grants	\$68,743.6	\$82,911.4	\$67,954.7	(\$14,956.7)
Total Workyears	2,017.8	1,932.6	2,079.3	146.7

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Capacity Building	\$9,417.1	\$10,342.7	\$5,785.3	(\$4,557.4)
Civil Enforcement	\$102,997.6	\$99,718.8	\$113,460.3	\$13,741.5
Compliance Assistance and Centers	\$406.7	\$378.0	\$0.0	(\$378.0)
Compliance Incentives	\$284.6	\$292.6	\$0.0	(\$292.6)
Compliance Monitoring	\$54,055.9	\$51,198.4	\$59,716.0	\$8,517.6
Criminal Enforcement	\$41,697.5	\$42,538.1	\$45,166.6	\$2,628.5

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Data Management	\$16,069.9	\$16,372.7	\$27,216.2	\$10,843.5
Enforcement Training	\$3,947.3	\$3,880.4	\$3,900.2	\$19.8
Environmental Justice	\$0.0	\$0.0	\$4,726.1	\$4,726.1
Facilities Infrastructure and Operations	\$25,957.5	\$27,464.3	\$28,458.7	\$994.4
Homeland Security-Critical Infrastructure Protection	\$14,447.8	\$3,807.0	\$3,879.7	\$72.7
Legal Services	\$988.5	\$1,057.4	\$1,096.5	\$39.1
Management Services and Stewardship	\$5,804.7	\$6,391.3	\$6,549.5	\$158.2
NEPA Implementation	\$226.9	\$237.4	\$0.0	(\$237.4)
Planning and Resource Management	\$0.0	\$0.0	\$1,881.2	\$1,881.2
RCRA Enforcement State Grants	\$42,904.7	\$42,904.7	\$42,904.7	\$0.0
Regional Management	\$90.0	\$0.0	\$2,382.1	\$2,382.1
State Multimedia Enforcement Grants	\$0.0	\$15,000.0	\$0.0	(\$15,000.0)
State Pesticides Enforcement Grants	\$19,867.8	\$19,867.8	\$19,900.0	\$32.2
State Toxics Enforcement Grants	\$5,138.9	\$5,138.9	\$5,150.0	\$11.1

FY 2004 Request

The Agency's enforcement and compliance assurance program has been the centerpiece of efforts to provide a deterrent to pollution by ensuring compliance with environmental laws and regulations, and has achieved significant improvements in public health and the environment. By identifying and addressing violations of environmental statutes and regulations, the enforcement and compliance assurance program will work together with states and tribes toward continuous improvement in compliance with standards, permits and other established requirements to mitigate and avoid environmental problems and their associated risks.

Given the scope of its responsibilities and the large, diverse universe of private, public, and federal facilities regulated under the various statutes, the Agency also will work to maximize its effectiveness by strategically targeting its compliance and enforcement activities to address the most significant risks to human health and the environment and to address disproportionate burden on certain populations. A strong compliance and enforcement program achieves environmental protection by identifying noncompliance problems, holding violators accountable

and deterring future violations, while ensuring a level economic playing field for all regulated entities.

State, tribal and local governments bear much of the responsibility for ensuring compliance. EPA will continue its efforts to cooperate with states, tribes, and other Federal agencies to promote environmental protection. Further, EPA will cooperate with other nations to enforce and ensure compliance with international agreements affecting the environment. These activities also ensure a level economic playing field in an increasingly global trading system.

Environmental Enforcement

The Agency's compliance monitoring, civil enforcement, criminal enforcement, and homeland security programs support this objective. In FY 2004, the Agency's enforcement and compliance assurance program will measure its performance not only in terms of inspections and enforcement actions, but also in terms of pollutant reductions, and other human health and environmental outcomes the program produces. The FY 2004 annual performance plan contains annual goals and measures to show results such as reducing significant non-compliance and behavioral changes resulting from compliance assistance and enforcement efforts. These measures complement the traditional enforcement measures and portray a more complete picture of the environmental results of the enforcement and compliance assurance program.

Compliance Monitoring. The Agency reviews and evaluates the activities of the regulated community to determine compliance with applicable laws, regulations, permit conditions and settlement agreements and to determine whether conditions presenting imminent and substantial endangerment to human health or the environment exist. The majority of workyears devoted to compliance monitoring are provided to the Regions to conduct investigations and on-site compliance inspections including monitoring, sampling, and emissions testing and also to review performance reports submitted by sources. Compliance monitoring activities are both environmental media- and sector-based. The traditional media-based inspections are conducted to supplement those performed by States and Tribes and to implement programs that are not delegated to States and Tribes. These compliance inspections are key to meeting the long-term and annual goals established for air, water, pesticides, toxic substances, and hazardous waste in the EPA Strategic Plan. The multi-media approaches, such as cross-media inspections, sector initiatives, and risk-based targeting, allow the Agency to take a more holistic approach to protecting ecosystems and to solving the more intractable environmental problems. EPA also monitors compliance by Federal facilities with environmental regulatory requirements and executive orders, including conducting single media and multimedia inspections to ensure their compliance.

In FY 2004, EPA will conduct approximately 15,500 inspections targeted to areas that pose risks to human health or the environment, display patterns of non-compliance, or involve disproportionately-exposed populations. EPA will work with States and Tribes to identify where these inspections will have the greatest benefit to achieving environmental results. In addition to conducting evaluations that focus on facilities with significant non-compliance problems and those which will maximize the deterrent effect, the Agency will direct resources to achieve an adequate field presence.

Maintaining an effective inspection program depends on a well-trained workforce. In order to maintain EPA's expertise in field monitoring and to ensure compliance with EPA Order 3500.1, the Agency will support development of inspector manuals, training modules, and delivery systems for training Regional, State, and Tribal inspectors and program managers. The EPA Order 3500.1 establishes consistent Agency-wide training and development standards for EPA employees leading environmental compliance inspections/field investigations to ensure that they have working knowledge of regulatory requirements, inspection methodologies, and health and safety procedures. The Order consists of a three-level training program for EPA compliance inspectors/field investigators: Occupational Health and Safety Curriculum, Basic Inspector Curriculum, and Program-Specific Curriculum. EPA compliance inspectors/field investigators must complete the required training before leading a compliance inspection/field investigation. The materials developed may include sampling tools, use of new technology including the use of EPA's information systems and how to conduct inspections as EPA moves to e-sign processes (a process where forms/reports may be filled out electronically and certified as legal documents). The Order also serves as a potential model to states, tribes and local environmental agencies that may want to develop their own inspector training program.

In FY 2004, EPA will continue to review and respond to 100 percent of the notices for transboundary movement of hazardous waste, ensuring that these wastes are properly handled in accordance with international agreements and Resource Conservation and Recovery Act (RCRA) regulations. Through analysis of notices, manifests, tracking documents, and annual reports, EPA monitors compliance with relevant regulations and takes enforcement actions as necessary. While the vast majority of the hazardous waste trade occurs with Canada, the U.S. also has agreements concerning international trade in hazardous wastes with Mexico, Malaysia, Costa Rica and member countries of the Organization for Economic Cooperation and Development (OECD). In calendar year 2002, EPA responded to 1,431 notices regarding 8,758 distinct waste streams.

In FY 2004, the compliance monitoring program will continue to focus on the national program priorities established through the Office of Enforcement and Compliance Assurance's Memorandum of Agreement 2004/2005 guidance. Based on recommendations from the Managing for Improved Results (MIR) Steering Committee, which was charged with conducting an overall assessment of the Agency's planning processes, a decision was made to carry over existing priorities and planning guidance an additional year (2004) in order to focus on longer-term planning reforms. EPA will continue to work with States and Tribes to target areas that pose risks to human health or the environment, display patterns of noncompliance, or include disproportionately exposed populations and will issue a supplemental 2004 program planning guidance for problem-based media-specific and/or industry sector-based priorities, if necessary.

Civil Enforcement. The Agency's civil enforcement program will address violations of environmental laws and ensure that violators come into compliance with these laws and regulations. The civil enforcement program achieves the Agency's environmental goals through consistent, fair and focused enforcement of all environmental statutes. The overarching goal of the civil enforcement program is to protect public health and the environment, and therefore, the program targets its actions based on health and environmental risk. Further, it aims to level the

economic playing field by ensuring that violators do not realize an economic benefit from noncompliance, and seeks to deter future violations.

To accomplish these goals, the civil enforcement program is responsible for the development, litigation and settlement of administrative and civil judicial cases against serious violators of priority environmental laws. The federal program will focus its resources on national environmental and human health problems, transboundary pollutants, and multi-state industrial violators. The Federal facilities enforcement program will continue to ensure that Federal facilities and Government-Owned-Contractor-Operated facilities conduct their activities in an environmentally sound manner and comply with all applicable laws, regulations, permits and executive orders.

In FY 2004, program management will provide direction to, set goals and priorities for, and evaluate and review the national enforcement program. Enforcement and compliance staff will develop guidance and policy for technical evaluations, investigations, and case development strategies that may include the use of injunctive relief, supplemental environmental projects and other civil penalties as appropriate. Further, enforcement staff will participate in the development of, or revision to, regulations and interpretive guidance.

Criminal Enforcement. The criminal enforcement program brings to bear the Agency's most powerful enforcement tool against the most significant environmental violations. By demonstrating that the regulated community will be held accountable for serious, willful statutory violations in terms of jail sentences and criminal fines, the program acts to forcefully deter violations of environmental laws and regulations in a way that civil judicial and administrative enforcement might not achieve. EPA's special agents, located nationwide, will conduct criminal investigations, develop information to support grand jury inquiries and decisions, and work with other law enforcement agencies to present a highly visible and effective force in the Agency's enforcement strategy. Cases are referred to the U.S. Attorney's Offices of the Department of Justice for prosecution, with special agents serving as key witnesses in these judicial proceedings. The criminal enforcement program places particular emphasis on cooperation with state and local law enforcement through participation in task forces and enhancing capacity through specialized training and community policing efforts.

EPA's efforts to work more closely and cooperatively with industry are complemented by the criminal enforcement program. The Agency is sending a clear message to the regulated community that those who choose to cooperate, in good faith, will reap the benefits of that partnership. Those whose noncompliance is distinguished by culpable conduct can expect the serious implication of criminal investigation and prosecution. In FY 2004, EPA estimates that it will conduct 400 criminal investigations targeted to areas that pose risks to human health or the environment, display patterns of noncompliance or include disproportionately exposed populations. EPA will also continue to develop and deploy and secure network to ensure proper handling of law enforcement confidential information used in the criminal program.

The Agency's forensic program provides specialized support for the nation's most complex civil and criminal enforcement cases and technical expertise for non-routine Agency compliance efforts. To effectively support these activities, the program must maintain state-of-

the-art skills and equipment capable of dealing with an increasingly sophisticated regulated community. EPA's National Enforcement Investigations Center (NEIC) is the only accredited forensics environmental center in the nation. NEIC's Accreditation Standard has been customized to cover the civil, criminal, and special program work conducted by the program.

In FY 2004, the forensic program will function under more stringent International Standards of Operation for environmental data measurements to maintain its accreditation. The program will also continue to develop emerging technologies in field and laboratory analytical techniques. Efforts to stay at the forefront of environmental enforcement will include the refinement of successful multi-media inspection approaches, use of customized laboratory methods to solve unusual enforcement case problems, and further development of a computer forensic expertise for use in seizure and recovery of data and in investigative support related to computers and data fraud. The program will also provide technical support for national, regional, state, and tribal initiatives and priorities as well as the Agency's integrated compliance assurance program using a unique process-based approach.

Homeland Security

EPA's enforcement and compliance assurance program has lead responsibility for coordinating Presidential Decision Directive (PDD) 39, 62 and 63 on crisis management (i.e., law enforcement) activities. In this capacity, EPA will deliver environmental crimes expertise necessary to support federal, state, local, and tribal law enforcement homeland security planning and operational activities. In FY 2004, special agents will continue to provide environmental crimes expertise to various Federal task forces and response teams as needed. The enforcement program will also coordinate with the Agency's consequence management resources needed to detect, prepare for, prevent, protect, as well as to respond to and recover from a human or cyber terrorist threat or attack.

Data Systems Modernization

Reliable, comprehensive and up-to-date data systems are key to EPA's ability to identify non-complying facilities, target compliance monitoring and assistance to environmental problems posing the highest risk and measure the effectiveness of its enforcement activities. The Agency will continue to maintain and support the thirteen information systems that house the national enforcement and compliance data archive. EPA will expand the development of its Quality Management Plans (QMPs), building on those developed for the National Compliance Database/Federal Insecticide Fungicide Rodenticide Act (FIFRA) and Toxic Substance Control Act (TSCA) Tracking System, the Resource Conservation and Recovery Information System, and a final data quality audit for the Permit Compliance System (PCS). The Enforcement and Compliance program has developed a Data Quality Strategy focusing on: expansion of the public access and error correction functions of the Integrated Data for Enforcement Analysis system (IDEA) and the Online Targeting Information System (OTIS), objective verification of core data fields across systems and programs through random sampling technology, and resolution of data quality problems as they relate to interpretation of data definitions. In FY 2004, the Agency will have a QMP or equivalent in place for Phase I of the Integrated Compliance Information System (ICIS).

In FY 2002, ICIS Phase I was successfully implemented in all EPA Regions. When fully implemented (all phases), ICIS will be a consolidated enforcement and compliance information management system that will provide a single integrated source of information for the national enforcement and compliance assurance program. ICIS will consolidate and streamline enforcement and compliance information that is currently contained in the thirteen legacy media-based systems. The new system will reduce burden and duplication by providing a single source for data entry, will improve public access to data, support the development of risk reduction strategies, and will provide states and regions with a modernized system to meet their program management and accountability responsibilities. Phase II of ICIS was initiated in FY 2002. Major progress was made in the development of a detailed design for a modernized Permit Compliance System (PCS), which serves the permitting and compliance program needs of the Clean Water Act (CWA) National Pollutant Discharge Elimination System (NPDES).

In FY 2003, the Agency continues its phased implementation of ICIS with the completion of the detailed design and the start of the development of system software for ICIS Phase II, PCS Modernization. In addition, in FY 2003 EPA is completing the requirements analysis for the Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS) (Phase III). The modernization of these systems is key to the Agency's ability to use information collected from States and localities to direct and manage the permitting and enforcement programs.

In FY 2004, the Agency is requesting an increase of \$5,000,000 to support Permit Compliance System (PCS) modernization. These resources will support system testing, data migration, training, documentation and implementation. PCS has little or no data for major new NPDES requirements, such as Concentrated Animal Feeding Operations (CAFOs), storm water, and Sanitary Sewer Overflows (SSOs). PCS modernization will address these serious data gaps, provide for easy use of and access to the system via the use of current information technology, support the Agency's initiative for data integration, and will promote exchange and data sharing with our state partners.

The Enforcement and Compliance Assurance Program will continue to make enforcement and compliance information available to the public through the Enforcement and Compliance History On-line (ECHO) internet website during 2004. The existing website will be improved in response to the comments of the public as well as interested industry groups. The compliance and enforcement program will also continue to make all significant enforcement and compliance guidance, policy statements, planning documents and accomplishments electronically accessible to the Regions, states, industry and the public through the internet.

State, Tribal, and International Capacity Building

A strong state and tribal enforcement and compliance assurance presence is essential to EPA's long-term strategic plan objective to identify and reduce significant noncompliance in high priority areas while maintaining a strong enforcement presence in all regulatory program areas. Most of the Nation's environmental laws envision a strong role for state governments in implementing and managing environmental programs. In FY 2004, the enforcement and compliance assurance program will continue to support state agencies implementing authorized, delegated, or approved environmental programs. Consistent with regulations and Agency policy,

EPA will provide an appropriate level of oversight and guidance to states to ensure that environmental regulations are fairly and consistently enforced across the Nation.

EPA works with Indian tribes on a government-to-government basis to identify enforcement, compliance assistance, and capacity building issues affecting tribal lands. The Agency's goal is to help tribes develop their own enforcement and compliance assistance programs so that they can assume greater management of environmental programs in Indian Country. In FY 2004, the enforcement and compliance assurance program will continue implementation of the Tribal Strategy in order to direct compliance monitoring and compliance assistance capacity-building efforts. By monitoring and evaluating progress made, EPA will ensure that the plan's commitments are met in a timely fashion. These efforts will help implement EPA's 1984 Indian Policy in which EPA works with tribal governments as full partners to enhance protection of the public health and the environment on tribal lands.

The state and tribal grant programs are designed to build environmental partnerships with states and tribes and to strengthen their ability to address environmental and public health threats. These threats include contaminated drinking water, pesticides in food, hazardous waste, toxic substances and air pollution. In FY 2004, the enforcement and compliance assurance program will continue to award state and tribal enforcement grants to assist in the implementation of the compliance and enforcement provisions of the Toxic Substances Control Act (TSCA) and the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). These grants support state and tribal compliance activities to protect the environment from harmful chemicals and pesticides. The enforcement component of RCRA state grants is also included in this objective.

- Under the Pesticides Enforcement Grant program, EPA provides resources to states and Indian tribes to conduct FIFRA compliance inspections and take appropriate enforcement actions, and implement programs for farm worker protection.
- States receive toxic substances grant funding for compliance inspections of asbestos and PCBs and for implementation of the state lead abatement enforcement program. The funds will complement other Federal program grants for building state capacity for lead abatement, and enhancing compliance with disclosure, certification and training requirements.
- EPA will also provide grant funding for states to inspect federal, state, and local RCRA facilities that store, treat, or dispose of hazardous waste. Inspections will emphasize compliance with facility-specific requirements or interim status requirements. RCRA enforcement orders and supplemental environmental projects will incorporate waste minimization provisions, where appropriate.

The Agency also provides single media enforcement grants to states that are funded under other environmental goals supporting air and water programs.

The strategic mission and objectives of the international enforcement program include promoting international and border environmental security through enforcement and compliance

means; fostering cooperation with foreign countries which are of strategic interest to the United States, as prescribed in treaties and trade agreements, through capacity building and other means; and integrating, analyzing and utilizing data about transboundary movements of regulated substances/wastes to promote environmental enforcement. Achieving these strategic objectives and environmental benefits requires an EPA enforcement presence to effectively implement international commitments for cooperation in enforcement and compliance activities with other countries, especially those along the U.S. border. Through such arrangements, EPA works to reduce environmental risks to U.S. citizens from external sources of pollution, as well as to prevent or reduce the impact of pollution originating in the United States.

Environmental Justice

EPA's environmental justice program will continue education, outreach, and data availability initiatives. The program provides a central point for the Agency to address environmental and human health concerns in minority and/or low-income communities--segments of the population that have been disproportionately exposed to environmental harms and risks. The program will continue to manage the Agency's Environmental Justice Community Small Grants program that assists community-based organizations that are working to develop solutions to local environmental issues. The Community Small Grants Program was established in 1994 and has awarded more than 973 grants of up to \$20,000 each to community organizations. As a result of these grant awards, community-based organizations (i.e., grassroots groups, churches, and other nonprofit organizations) have expanded citizen involvement and given people the tools to learn more about exposure to environmental harms and risks, and, consequently, to protect their families and their communities as they see fit. These small grants have served as "seed-money" to empower the residents of these communities, which has allowed them to more fully participate in environmental matters affecting their community.

During FY 2003, EPA continues to encourage the use of alternative dispute resolution through training and multi-stakeholder partnering. By FY 2004 the Agency and communities will have increased capacity to resolve disputes through alternative dispute resolution. Through the use of ADR, the Agency expects to reduce time and resources accompanying litigation and expects decisions to be more efficient and favorable for all parties involved.

The Agency will continue to support the National Environmental Justice Advisory Council (NEJAC) which provides EPA significant input from interested stakeholders such as community-based organizations, business and industry, academic institutions, state, Tribal and local governments, non-governmental organizations and environmental groups. Six subcommittees were created around the Agency's broad statutory mandates and are sponsored by the appropriate EPA office. The subcommittees are: Air/Water; Enforcement; Health/Research; Indigenous People; International; and Waste/Facility Siting. In FY 2004, the council will address the implications of cumulative impacts on communities with exposure to multiple sources of environmental degradation.

The Agency will also continue to chair an Interagency Working Group (IWG) consisting of eleven departments and agencies as well as White House offices to ensure that environmental justice concerns are incorporated into all Federal programs. In 2004, the IWG will continue its

efforts to work collaboratively and constructively with all levels of government and throughout the public and private sectors to effectively address the environmental, health, economic and social challenges facing our communities through the selection of fifteen new demonstration and revitalization projects. These new projects will continue to implement the 2000 Action Agenda centered around fifteen demonstration projects in diverse urban and rural communities in virtually all regions of the nation. The agenda is dynamic and will continue to increase with the selection of projects to achieve a variety of goals, ranging from environmental cleanup, Brownfields and economic development and children's health to community education and capacity building. To date, these demonstration projects have leveraged more than \$12 million in public/private resources.

The Agency supports State and Tribal environmental justice programs and conducts outreach and technical assistance to states, local governments, and stakeholders on environmental justice issues. In order to be able to respond to an allegation of environmental injustice, it is essential to identify the "affected community." In 2001, the Environmental Justice Mapper was developed for the Internet to provide all stakeholders with information about a selected location. The Environmental Justice Mapper reflects environmental data available from the Agency's data warehouse and demographic data provided by the U.S. Census Bureau. Links are provided to the health-related database of the Department of Health and Human Services. Another essential tool to foster the integration of environmental justice into Federal programs, policies and activities is training. In FY 2002, a Fundamentals Workshop on Environmental Justice was developed. In FY 2003 a module on how the issuance of permits under RCRA, CWA, and CAA is being added to the course. EPA will provide 25 training sessions to over 750 individuals in FY 2004.

In support of the Agency's environmental justice efforts, criminal investigations and civil enforcement actions will be focused on industries that have repeatedly violated environmental laws in minority and/or low-income areas.

Enforcement Training

The Agency's enforcement training program is mandated by the Pollution Prosecution Act to provide environmental enforcement training nationally through the National Enforcement Training Institute (NETI). The program oversees the design of core and specialized enforcement courses and their delivery to lawyers, inspectors, civil and criminal investigators and technical experts. In FY 2004, the program will continue development and enhancement of a training center on the Internet. "NETI Online" offers timely, targeted technical training courses to a nation-wide and international audience. The site also provides for tracking individual training plans as well as developing and managing the program's training delivery processes.

The Agency also provides specialized classroom training in criminal environmental law enforcement at the Department of Treasury's Federal Law Enforcement Training Center (FLETC) in Glynco, GA. FLETC develops and delivers basic and advanced training to EPA Special Agents and their state, local and tribal partners across the United States and in selected counties worldwide. FLETC provides one of the few opportunities for state, local, and tribal enforcement professionals to obtain criminal investigations training. In FY 2004, the

enforcement training program will enhance opportunities for experiential training with an additional practical exercise site at its NETI-West facility in Denver, Colorado.

FY 2004 Change from FY 2003 Request

EPM

- (+\$14,000,000, +100 FTE) This increase in FTE, payroll, and extramural dollars will allow the Agency to improve its ability to maximize compliance and achieve environmental results through targeted inspections and enforcement, including review of facility self-monitoring reports, respond to citizen and other types of complaints, and enhance field presence to address recalcitrant violators of water, air and hazardous waste laws. The Agency estimates that an additional 1,500 inspections will be conducted in areas that pose significant health or environmental risk. These additional inspections will contribute to reducing an additional 50 million pounds of pollutants from the environment. Headquarters and Regional offices are working together to effectively deploy enforcement and compliance resources to address environmental problems.
- (+7,823,400, 12 FTE) This increase includes a shift in resources for payroll and working capital fund from capacity building to compliance monitoring and enforcement. The shift of capacity building resources was based on an internal distribution and there was no negative impact to the program.
- (+\$8,530,600) This increase includes a \$5 million investment to modernize the Agency's Permit Compliance System. The availability of more comprehensive data in a modernized PCS will enhance the Agency's ability to more effectively manage the Clean Water Act (CWA) NPDES program. The systematic tracking of discharge monitoring data for existing and new NPDES program areas will provide the Agency the capability to determine national compliance rates for program areas such as CAFOs. Similarly, the capability to determine national compliance rates for combined sewer and sanitary sewer systems where wet weather related overflows have been identified as a major environmental problem will also be possible. The remainder of this increase is due to increases for payroll, cost of living, and enrichment for new and existing FTE.
- (+\$72,700) This increase in criminal enforcement is a result of a combined reduction in payroll \$310,000 due to repricing and an increase of \$380,000 to support criminal enforcement activities in the homeland security program.
- (+\$3,826,100, +16 FTE) The Agency's environmental justice program has been moved from Goal 7 to this objective. This does not reflect an increase to the program.
- (+\$2,382,100, +23.6 FTE) This change represents the distribution of resources for Regional Information Management across all Regions.
- (+1,633,400, +7.6 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and

FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

Superfund

- (+\$900,000) The Agency's environmental justice program has been moved from Goal 7 to this objective. This does not reflect an increase to the program.
- (+330,300, +1.2 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

STAG

- (-\$15,000,000) In FY 2004, the Agency is not proposing to fund the multi-media enforcement state grant program that was requested in the FY 2003 President's Budget.

Multi Appropriation

- (EPM, +\$2,144,600, +9.4 FTE and Superfund, +\$485,500, +0.7 FTE) Resources for public access previously in Goal 7 have been consolidated with the rest of OECA's data management program under this objective. OECA will continue to support data integration projects, such as Integrated Data for Enforcement Analysis (IDEA) that makes integrated compliance data from several media-specific databases available nationally in an interactive online mode. In addition, OECA will continue to contribute to the Agency-wide Enhanced Public Access Project, intended to make all significant Agency guidance, policy statements and site-specific interpretations of the regulated entities' environmental management practices electronically accessible to the Regions, states, industry and the public. The Enforcement and Compliance History On-Line (ECHO) web site will make some enforcement and compliance data available to the public through the internet.

There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: A CREDIBLE DETERRENT TO POLLUTION AND GREATER COMPLIANCE WITH THE LAW

OBJECTIVE: INCREASE COMPLIANCE THROUGH ENFORCEMENT.

Annual Performance Goals and Measures

Non-Compliance Reduction

- In 2004 EPA will direct enforcement actions to maximize compliance and address environmental and human health problems.
- In 2003 EPA will direct enforcement actions to maximize compliance and address environmental and human health problems.
- In 2002 Based upon one measure, this APG was not met.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Millions of pounds of pollutants required to be reduced through enforcement actions settled this fiscal year.(core optional)	261	300	350	M pounds
Percent of concluded enforcement actions require physical action that result in pollutant reductions and/or changes in facility management or information practices. OECA will break out the %.	77	75	80	Percent
Develop and use valid compliance rates or other indicators of compliance for selected populations.	5	5	5	Populations

Baseline: Protecting the public and the environment from risks posed by violations of environmental requirements is basic to EPA's mission. To develop a more complete picture of the results of the enforcement and compliance program, EPA has initiated a number of performance measures designed to capture the results of lowering the timeline for significant noncompliers to return to compliance, reducing noncompliance recidivism rates, and improvements in facility process and/or management practices through behavioral changes. The baseline rates for many of these measures were established in FY00. These measures will complement the traditional enforcement measures of inspections and enforcement actions to provide a more complete picture of environmental results from the enforcement and compliance program.

Inspections/Investigations

- In 2004 EPA will conduct inspections, criminal investigations, and civil investigations targeted to areas that pose risks to human health or the environment, display patterns of non-compliance, or include disproportionately exposed populations.
- In 2004 EPA will provide direct investigative forensic, and technical support to the Office of Homeland Security, FBI and/or other federal, state, and local law enforcement agencies to help detect and prevent, or respond to, terrorist-related environmental, biological or chemical incidents.
- In 2003 EPA will conduct inspections, criminal investigations, and civil investigations targeted to areas that pose risks to human health or the environment, display patterns of non-compliance, or include disproportionately exposed populations.
- In 2003 EPA will provide direct investigative, forensic, and technical support to the Office of Homeland Defense, FBI and /or other federal, state and local law enforcement agencies to help detect and prevent, or response to, terrorist-related environmental, biological or chemical incidents.
- In 2002 EPA exceeded all targets for inspections and investigations
- In 2002 EPA provided support to Office of Homeland Security and other law enforcement. agencies as requested.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of EPA inspections conducted (core required)	17668	14,000	15,500	Inspections
Number of Criminal Investigations	674	400	400	Investigations
Number of Civil Investigations	541	180	225	Investigations
EPA will respond to investigative leads that relate to security of homeland environment, FBI requests for support, and participate in all National Special Security Events as requested.	100	100	100	Percent

Baseline: The compliance monitoring program works with states and tribes to target areas that pose risks to human health or the environment, display patterns of noncompliance, or include disproportionately exposed populations. The number of inspections projected varies each year by the complexity of facilities targeted.

Quality Assurance

In 2004 Identify noncompliance, and focus enforcement and compliance assurance on human health and environmental problems, by maintaining and improving quality and accuracy of data.

In 2003 Identify noncompliance, and focus enforcement and compliance assurance on human health and environmental problems, by maintaining and improving quality and accuracy of data.

In 2002 EPA continues to operate and modernize enforcement and compliance databases.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Operate 14 information systems housing national enforcement and compliance assurance data with a minimum of 95% operational efficiency.	95	95		Percent
Complete the detailed design and software development system lifecycle stage of Phase II of ICIS (modernization of the Permit Compliance System (PCS)) by September 2003.		1		lifecycle stage
Have Phase I of the Integrated Compliance Information system ICIS fully operational in March 2002.	1			Phase
Complete system implementation lifecycle stage (i.e. data migration and testing) of Phase II of ICIS by September FY 2004.			1	lifecycle stage

Baseline: EPA's ability to target and measure effectiveness of its enforcement activities depends upon reliable and up-to-date data systems. EPA's 14 data systems will continue to operate at 95% or better operational efficiency. In conjunction with the operation and maintenance of existing systems, EPA will continue its system modernizing efforts and improve data integration and consistency.

Capacity Building

In 2004 Improve capacity of states, localities and tribes to conduct enforcement and compliance programs. EPA will provide training as well as assistance with state and tribal inspections to build capacity, including implementation of the inspector credentials program for tribal law enforcement personnel.

In 2003 Improve capacity of states, localities and tribes to conduct enforcement and compliance programs. EPA will provide training as well as assistance with state and tribal inspections to build capacity, including implementation of the inspector credentials program for tribal law enforcement personnel.

In 2002 Capacity building efforts greatly assist state and tribes who are delegated inspection monitoring and enforcement activities under many statutes. This year, EPA began collecting Regional training performance data therefore the results are significantly higher than in past years.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Conduct EPA-assisted inspections to help build state program capacity	1081	250	400	Inspections

Baseline: Improve capacity of states, localities and tribes to conduct enforcement and compliance programs by providing training as well as assistance with state and tribal inspections.

Program Assessment Rating Tool

As part of the Administration's overall evaluation of effectiveness of Government programs, the Civil Enforcement program was evaluated with the following specific findings:

1. The program lacks adequate outcome oriented performance measures. This impacts both program planning and results. With better outcome performance measures, program planning could be adjusted to achieve more effective results.
2. Outside evaluators have criticized the program for: a) lack of adequate workload analysis to support existing staffing and priorities, and b) lack of good quality data to accurately determine compliance and monitor the effectiveness of enforcement activities.

In response to these findings the Administration will:

1. Fund \$5 million for an improved compliance data system.
2. Revise EPA's strategic plan with a focus on defining EPA's federal enforcement role and appropriate outcome performance measures.

Verification and Validation of Performance Measures for 2004

FY 2004 Performance Measure: Percent of concluded enforcement actions require physical action that result in pollutant reductions and/or changes in facility management or information practices. OECA will breakout the percentage among, physical, facility management and information practices.

Performance Database: ICIS, which tracks EPA civil, judicial and enforcement actions.

Data Source: Most of the essential data on environmental results in ICIS are collected through the use of the Case Conclusion Data Sheet (CCDS), which Agency staff prepares after the conclusion of each civil (judicial and administrative) enforcement action. EPA implemented the CCDS in 1996 to capture relevant information on the results and environmental benefits of concluded enforcement cases. The information generated through the CCDS is used to track progress for several of the performance measures. The CCDS form consists of 27 specific questions which, when completed, describe specifics of the case; the facility involved, information on how the case was concluded; the compliance actions required to be taken by the defendant(s); the costs involved; information on any Supplemental Environmental Project to be undertaken as part of the settlement; the amounts and types of any penalties assessed; and any costs recovered through the action, if applicable. The CCDS requires that the staff identify if the facility/defendant, through injunctive relief, must: (1) reduce pollutants; and (2) improve management practices to curtail, eliminate or better monitor and handle pollutants in the future.

Methods, Assumptions and Suitability: For enforcement actions which result in pollution reductions, the staff estimate the amounts of pollution reduced for an immediately implemented improvement, or an average year once a long-term solution is in place. There are established

procedures for the staff to calculate, by statute, (e.g., Clean Water Act), the pollutant reductions or eliminations. The procedure first entails the determination of the difference between the current "out of compliance" concentration of the pollutant(s) and the post enforcement action "in compliance" concentration. This difference is then converted to mass per time using the flow or quantity information derived during the case.

QA/QC Procedures: Quality Assurance/Quality Control procedures [See references] are in place for both the CCDS and ICIS entry. There are a Case Conclusion Data Sheet Training Booklet [See references] and a Case Conclusion Data Sheet Quick Guide [See references], both of which have been distributed throughout regional and headquarters' (HQ) offices. Separate CCDS Calculation and Completion Checklists [See references] are required to be filled out at the time the CCDS is completed. A Quality Management Plan for ICIS is under development.

Data Quality Review: Information contained in the CCDS and ICIS are required by policy to be reviewed by regional and headquarters' staff for completeness and accuracy.

Data Limitations: The pollutant reductions or eliminations reported on the CCDS are estimates of what will be achieved if the defendant carries out the requirements of the settlement. Information on expected outcomes of state enforcement is not available. The estimates are based on information available at the time a case is settled or an order is issued. In some instances, this information will be developed and entered after the settlement, during continued discussions over specific plans for compliance. Because of the time it takes to agree on the compliance actions, there may be delay in completing the CCDS. Additionally, because of unknowns at the time of settlement, different levels of technical proficiency, or the nature of a case, OECA's expectation is that based on information on the CCDS, the overall amounts of pollutant reductions/eliminations will be prudently underestimated.

Error Estimate: Not available

New & Improved Data or Systems: In November 2000, EPA completed a comprehensive guidance package on the preparation of the Case Conclusion Data Sheet. This guidance, issued to headquarters' and regional managers and staff, was made available in print and CD-ROM, and was supplemented in FY2002 [See references]. The guidance contains work examples to ensure better calculation of the amounts of pollutants reduced or eliminated through concluded enforcement actions. EPA trained each of its ten regional offices during FY 2002. Additionally, OECA began implementing an Information Quality Strategy (IQS) in FY2002 [See references]. The Office of Compliance's (OC) Information Quality Strategy is a plan, developed with participation across OC, The Office of Environmental Information (OEI), EPA's regional offices and states, to ensure information used and produced from national data systems are reviewed for quality, problems identified and corrective steps followed. It includes an implementation plan that describes a series of projects OC is undertaking to carry forward the strategy. These projects will be updated annually. Additionally, the IQS provides the basis of OC's Quality Management Plans [See references] produced in accordance with the Agency's data quality requirements.

References: Quality Assurance and Quality Control procedures: Data Quality: Life Cycle Management Guidance, (IRM Policy Manual 2100, dated September 28, 1994, reference Chapter

17 for Life Cycle Management). Case Conclusion Data Sheets: Case Conclusion Data Sheet, Training Booklet, issued November 2000 available: www.epa.gov/compliance/resources/publications/planning/caseconc.pdf; Quick Guide for Case Conclusion Data Sheet, issued November 2000. Information Quality Strategy and OC's Quality Management Plans: Final Enforcement and Compliance Data Quality Strategy, and Description of FY 2002 Data Quality Strategy Implementation Plan Projects, signed March 25, 2002. ICIS: U.S. EPA, Office of Enforcement and Compliance Assurance, ICIS Phase I, implemented June 2002. Internal EPA database; non-enforcement sensitive data available to the public through the Freedom of Information Act (FOIA).

FY 2004 Performance Measure: Millions of pounds of pollutants required to be reduced through settled enforcement actions. (Core optional)

Performance Database: ICIS, which tracks EPA civil, judicial and enforcement actions.

Data Source: Most of the essential data on environmental results in ICIS are collected through the use of the Case Conclusion Data Sheet (CCDS), which Agency staff prepare after the conclusion of each civil (judicial and administrative) enforcement action. EPA implemented the CCDS in 1996 to capture relevant information on the results and environmental benefits of concluded enforcement cases. The information generated through the CCDS is used to track progress for several of the performance measures. The CCDS form consists of 27 specific questions which, when completed, describe specifics of the case; the facility involved, information on how the case was concluded; the compliance actions required to be taken by the defendant(s); the costs involved; information on any Supplemental Environmental Project to be undertaken as part of the settlement; the amounts and types of any penalties assessed; and any costs recovered through the action, if applicable. The CCDS requires that the staff identify if the facility/defendant, through injunctive relief, must: (1) reduce pollutants; and (2) improve management practices to curtail, eliminate or better monitor and handle pollutants in the future.

Methods, Assumptions and Suitability: For enforcement actions which result in pollution reductions, the staff estimate the amounts of pollution reduced for an immediately implemented improvement, or an average year once a long-term solution is in place. There are established procedures for the staff to calculate, by statute, (e.g., Clean Water Act), the pollutant reductions or eliminations. The procedure first entails the determination of the difference between the current "out of compliance" concentration of the pollutant(s) and the post enforcement action "in compliance" concentration. This difference is then converted to mass per time using the flow or quantity information derived during the case.

QA/QC Procedures: Quality Assurance/Quality Control procedures [See references] are in place for both the CCDS and ICIS entry. There are a Case Conclusion Data Sheet Training Booklet [See references] and a Case Conclusion Data Sheet Quick Guide [See references], both of which have been distributed throughout regional and headquarters' (HQ) offices. Separate CCDS Calculation and Completion Checklists [See references] are required to be filled out at the time the CCDS is completed. A Quality Management Plan for ICIS is under development.

Data Quality Review: Information contained in the CCDS and ICIS is required by policy to be reviewed by regional and headquarters' staff for completeness and accuracy.

Data Limitations: The pollutant reductions or eliminations reported on the CCDS are estimates of what will be achieved if the defendant carries out the requirements of the settlement. Information on expected outcomes of state enforcement is not available. The estimates are based on information available at the time a case is settled or an order is issued. In some instances, this information will be developed and entered after the settlement, during continued discussions over specific plans for compliance. Because of the time it takes to agree on the compliance actions, there may be delay in completing the CCDS. Additionally, because of unknowns at the time of settlement, different levels of technical proficiency, or the nature of a case, OECA's expectation is that based on information on the CCDS, the overall amounts of pollutant reductions/eliminations will be prudently underestimated.

Error Estimate: Not available

New & Improved Data or Systems: In November 2000, EPA completed a comprehensive guidance package on the preparation of the Case Conclusion Data Sheet. This guidance, issued to headquarters' and regional managers and staff, was made available in print and CD-ROM, and was supplemented in FY2002 [See references]. The guidance contains work examples to ensure better calculation of the amounts of pollutants reduced or eliminated through concluded enforcement actions. EPA trained each of its ten regional offices during FY 2002. Additionally, OECA began implementing an Information Quality Strategy (IQS) in FY2002 [See references]. The Office of Compliance's (OC) Information Quality Strategy is a plan, developed with participation across OC, The Office of Environmental Information (OEI), EPA's regional offices and states, to ensure information used and produced from national data systems are reviewed for quality, problems identified and corrective steps followed. It includes an implementation plan that describes a series of projects OC is undertaking to carry forward the strategy. These projects will be updated annually. Additionally, the IQS provides the basis of OC's Quality Management Plans [See references] produced in accordance with the Agency's data quality requirements.

References: Quality Assurance and Quality Control procedures: Data Quality: Life Cycle Management Guidance, (IRM Policy Manual 2100, dated September 28, 1994, reference Chapter 17 for Life Cycle Management). Case Conclusion Data Sheets: Case Conclusion Data Sheet, Training Booklet, issued November 2000 available: www.epa.gov/compliance/resources/publications/planning/caseconc.pdf; Quick Guide for Case Conclusion Data Sheet, issued November 2000. Information Quality Strategy and OC's Quality Management Plans: Final Enforcement and Compliance Data Quality Strategy, and Description of FY 2002 Data Quality Strategy Implementation Plan Projects, signed March 25, 2002. ICIS: U.S. EPA, Office of Enforcement and Compliance Assurance, ICIS Phase I, implemented June 2002. Internal EPA database; non-enforcement sensitive data available to the public through the Freedom of Information Act (FOIA).

FY 2004 Performance Measure: Develop and use valid compliance rates or other indicators of compliance for selected populations.

Performance Databases: The Permit Compliance System (PCS) tracks National Pollutant Discharge Elimination System (NPDES) permit and enforcement actions, as well as reporting and scheduling requirements. The Airs Facility Subsystem (AFS) captures emission, compliance and permit data for major stationary sources of air pollution. The Resource Conservation and Recovery Act Information System (RCRAInfo) supports permit, compliance and corrective action activities carried out by the hazardous waste handlers.

Data Source: EPA's regional offices, and delegated states

Methods, Assumptions and Suitability: EPA is working to establish statistically valid noncompliance rates for selected regulated populations. This requires establishing the universe of the population and then verifying the compliance status of the selected population. This effort began in FY 2000. The first year that a population is addressed establishes the baseline. EPA can then build on these results to measure changes in behavior as a result of targeted enforcement and compliance assurance activities. Populations that have been addressed and may continue to be include: municipal sewage treatment plants for conventional pollutants Biological Oxygen Demand (BOD) and Total suspended Solids (TSS); petroleum refining sector for ammonia levels; and iron and steel sector for lead and zinc.

QA/QC Procedures: All of the systems have been developed in accordance with the Office of Information Management's Lifecycle Management Guidance, which includes data validation processes, internal screen audit checks and verification, system and user documents, data quality audit reports, third-party testing reports, and detailed report specifications for showing how data are calculated.

Data Quality Review: Regarding AFS, EPA Inspector General (IG) reports in 1997 and 1998 [See references] highlighted states' problems with identifying and reporting significant violators of the Clean Air Act, impairing EPA's ability to assess non-compliance. EPA issued High Priority Violator Guidance [See references] to improve tracking of sources of violations. As a result of the reports, EPA has enhanced oversight and headquarters' outreach to regions, states, and local governments.

Data Limitations: For all systems, there are concerns about quality and completeness of data and the ability of existing systems to meet data needs. Incompatible database structures/designs and differences in data definitions impede integrated analyses. Additionally, there are incomplete data available on the universe of regulated facilities because not all are inspected/permited. System modernization will resolve many of these problems. Additionally, there are issues of programmatic scheduling that influence when statistically valid compliance measures can be calculated. For example, rates based on self-reported Discharge Monitoring Reports in the NPDES program, cannot be calculated until more than a fiscal quarter after the reports are received, due to programmatic and associated system rules for determining significant non-compliance.

Error Estimate: Not available.

New & Improved Data or Systems: PCS modernization is underway and will be nearing completion in FY2004. EPA is preparing Quality Management Plans (data quality objectives, quality assurance project plans, baseline assessments) for all major systems. A new Integrated Compliance Information System (ICIS) supports core program needs and consolidates and streamlines existing systems. A pilot project to develop statistically valid compliance rates for selected universes of regulated facilities will be completed in 2003. Also, measures directed at the impact of EPA strategies on recidivism focuses attention on better compliance assurance targeting, i.e., monitoring, compliance assistance, incentives and enforcement.

References: EPA Inspector General reports in 1997 and 1998: 1997 EPA IG Reports: Validation of Air Enforcement Data reported to EPA by Massachusetts (7100305) available: http://www.epa.gov/oigearth/ereading_room/list997/7100305.pdf;
EPA Region 3's Oversight of Maryland's Air Enforcement Data (7100302) available: <http://www.epa.gov/oigearth/list997/7100302.pdf>;
Region 6's Oversight of Arkansas Air Enforcement Data (7100295) September 26, 1997 available: http://www.epa.gov/oigearth/ereading_room/list997/7100295.pdf;
1998 EPA IG Reports: Region 6's Oversight of New Mexico Air Enforcement Data - March 13, 1998 (8100078) available http://www.epa.gov/oigearth/ereading_room/list398/8100078.pdf;
Idaho's Air Enforcement Program - September 30, 1998 (8100249) available http://www.epa.gov/oigearth/ereading_room/list998/8100249.pdf.]
High Priority Violator Guidance: U.S. EPA, Office of Regulatory Enforcement, Issuance of Policy on Timely and Appropriate Enforcement Response to High Priority Violations (HPVs), dated February 22, 1999, available: <http://www.epa.gov/compliance/resources/policies/civil/caa/stationary/issue-ta-rpt.pdf>

FY 2004 Performance Measure: Number of EPA inspections conducted.

Performance Databases: Integrated Data for Enforcement Analysis (IDEA) integrates data from major enforcement and compliance systems, such as the Permit Compliance System (PCS), Air Facilities Subsystem (AFS), Resource Conservation and Recovery Act Information System (RCRAInfo), and Emergency Response Notification system (ERNS).

Data Source: EPA's regional and Headquarters' offices.

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: All the systems have been developed in accordance with the Office of Information Management's Lifecycle Management Guidance, which includes data validation processes, internal screen audit checks and verification, system and user documents, data quality audit reports, third-party testing reports, and detailed report specifications for showing how data are calculated.

Data Quality Review: Regarding AFS, EPA Inspector General (IG) reports in 1997 and 1998 [See references] highlighted states' problems with identifying and reporting significant violators

of the Clean Air Act, impairing EPA's ability to assess non-compliance. EPA is now using an updated Clean Air Act Compliance monitoring strategy [See references] that clarifies reporting definitions and enhances oversight of state and local compliance monitoring programs.

Data Limitations: For all systems, there are concerns about quality and completeness of data and the ability of existing systems to meet data needs. Incompatible database structures/designs and differences in data definitions impede integrated analyses. Additionally, there are incomplete data available on the universe of regulated facilities because not all are inspected/permitted. In addition, the target is based on a preliminary estimate of the impact of redirecting resources to the state and tribal enforcement grant program.

Error Estimate: N/A

New & Improved Data or Systems: PCS modernization is underway and will be nearing completion in 2004. EPA is preparing Quality Management Plans (data quality objectives, quality assurance project plans, baseline assessments) for all major systems. A new Integrated Compliance Information System (ICIS) supports core program needs and consolidates and streamlines existing systems. A pilot project to develop statistically valid compliance rates will be completed in FY2003. Additionally, OECA began implementing its Data Quality Strategy in FY2002.

References: EPA Inspector General reports in 1997 and 1998: 1997 EPA IG Reports: Validation of Air Enforcement Data reported to EPA by Massachusetts (7100305) available: http://www.epa.gov/oigearth/ereading_room/list997/7100305.pdf;
EPA Region 3's Oversight of Maryland's Air Enforcement Data (7100302) available: http://www.epa.gov/oigearth/ereading_room/list997/7100302.pdf;
Region 6's Oversight of Arkansas Air Enforcement Data (7100295) September 26, 1997 available: http://www.epa.gov/oigearth/ereading_room/list997/7100295.pdf;
1998 EPA IG Reports: Region 6's Oversight of New Mexico Air Enforcement Data - March 13, 1998 (8100078) available http://www.epa.gov/oigearth/ereading_room/list398/8100078.pdf;
Idaho's Air Enforcement Program - September 30, 1998 (8100249) available http://www.epa.gov/oigearth/ereading_room/list998/8100249.pdf.]
Clean Air Act Compliance Monitoring Strategy, April 25, 2001, www.epa.gov/compliance/resources/policies/monitoring/cmspolicy.pdf.

FY 2004 Performance Measure: Number of criminal investigations

Performance Databases: The Criminal Docket System (CRIMDOC) is a criminal case management, tracking and reporting system. Information about criminal cases investigated by the U.S. EPA-Criminal Investigation Division (CID) is entered into CRIMDOC at case initiation, and investigation and prosecution information is tracked until case conclusion.

Data Source: U.S. EPA-CID offices.

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: The system administrator performs regularly scheduled quality assurance/quality control checks of the CRIMDOC database to validate data and to evaluate and recommend enhancements to the system.

Data Quality Review: N/A

Data Limitations: N/A

Error Estimate: N/A

New & Improved Data or Systems: A new case management, tracking and reporting system (Case Reporting System) is currently being developed that will replace CRIMDOC. This new system will be an easier to use database with greater tracking, management and reporting capabilities.

References: CRIM-DOC: U.S. EPA, Office of Enforcement and Compliance Assurance. Internal enforcement confidential database; non-enforcement sensitive data available to the public through the Freedom of Information Act (FOIA).

FY 2004 Performance Measure: Number of civil investigations

Performance Databases: Integrated Data for Enforcement Analysis (IDEA) integrates data from major enforcement and compliance systems, such as the Permit Compliance System (PCS), Air Facilities Subsystem (AFS), Resource Conservation and Recovery Act Information System (RCRAInfo), and Emergency Response Notification system (ERNS).

Data Source: EPA's Regional offices.

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: All the systems have been developed in accordance with the Office of Information Management's Lifecycle Management Guidance, which includes data validation processes, internal screen audit checks and verification, system and user documents, data quality audit reports, third-party testing reports, and detailed report specifications for showing how data are calculated.

Data Quality Review: Regarding AFS, EPA Inspector General (IG) reports in 1997 and 1998 [See references] highlighted states' problems with identifying and reporting significant violators of the Clean Air Act, impairing EPA's ability to assess non-compliance. EPA issued High Priority Violator Guidance [See references] to improve tracking of sources of violations. As a result of the reports, EPA has enhanced oversight and outreach to regions, states, local areas.

Data Limitations: For all systems, there are concerns about quality and completeness of data and the ability of existing systems to meet data needs. Incompatible database structures/designs and differences in data definitions impede integrated analyses. Additionally, there are incomplete data available on the universe of regulated facilities because not all are inspected/permitted.

Error Estimate: N/A

New & Improved Data or Systems: PCS modernization is underway and will be nearing completion in 2004. EPA is preparing Quality Management Plans (data quality objectives, quality assurance project plans, baseline assessments) for all major systems. A new Integrated Compliance Information System (ICIS) supports core program needs and consolidates and streamlines existing systems. An annual project to develop statistically valid compliance rates will be completed in FY2003.

References: EPA Inspector General reports in 1997 and 1998: 1997 EPA IG Reports: Validation of Air Enforcement Data reported to EPA by Massachusetts (7100305) available: http://www.epa.gov/oigearth/ereading_room/list997/7100305.pdf;
EPA Region 3's Oversight of Maryland's Air Enforcement Data (7100302) available: http://www.epa.gov/oigearth/ereading_room/list997/7100302.pdf;
Region 6's Oversight of Arkansas Air Enforcement Data (7100295) September 26, 1997 available: http://www.epa.gov/oigearth/ereading_room/list997/7100295.pdf;
1998 EPA IG Reports: Region 6's Oversight of New Mexico Air Enforcement Data - March 13, 1998 (8100078) available http://www.epa.gov/oigearth/ereading_room/list398/8100078.pdf;
Idaho's Air Enforcement Program - September 30, 1998 (8100249) available http://www.epa.gov/oigearth/ereading_room/list998/8100249.pdf.] High Priority Violator Guidance: U.S. EPA, Office of Regulatory Enforcement, Issuance of Policy on Timely and Appropriate Enforcement Response to High Priority Violations (HPVs), dated February 22, 1999, available: <http://www.epa.gov/compliance/resources/policies/civil/caa/stationary/issue-ta-rpt.pdf> ICIS: U.S. EPA, Office of Enforcement and Compliance Assurance, ICIS Phase I, implemented June 2002. Internal EPA database; non-enforcement sensitive data available to the public through the Freedom of Information Act (FOIA).

FY 2004 Performance Measure: Conduct EPA-assisted inspections to help build state program capacity.

Performance Database: Output measure; internal regional tracking system.

Data Source: Internal regional tracking system and ICIS.

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: EPA regional and headquarters' managers check information to confirm accuracy.

Data Quality Review: None

Data Limitations: None

Error Estimate: N/A

New & Improved Data or Systems: ICIS has ability to assist regions in tracking inspections. A new measurement tool, the Inspection Conclusion Data Sheet, (ICDS) will be used to analyze the results from inspections conducted under some of EPA's major statutes. EPA will analyze data on communication of problems to industry, compliance assistance delivered by inspectors, and immediate corrections made by industry according to region, nationally and by industry sector.

References: ICIS: U.S. EPA, Office of Enforcement and Compliance Assurance, ICIS Phase I, implemented June 2002. Internal EPA database; non-enforcement sensitive data available to the public through the Freedom of Information Act (FOIA). ICDS: U.S. EPA, Office of Enforcement and Compliance Assurance, Inspection conclusion Data Sheets (ICDS). This information is internal to EPA and not currently accessible through a database on a website.

FY 2004 Performance Measure: Complete system implementation life cycle stage (i.e. data migration and testing) of Phase II of ICIS (i.e. modernization of the Permits Compliance system (PCS) By September 2004.

Performance Database: No database; internal tracking of measure.

Data Source: None

Methods, Assumptions and Suitability:

QA/QC Procedures: Contained within the project design.

Data Quality Review: None

Data Limitations: None

Error Estimate:

New & Improved Data or Systems: None

References: N/A

FY 2004 Performance Measure: EPA will respond to investigative leads that relate to the environment, including conventional, chemical, biological or radiological incidents; Lead Agency and/or Office of Homeland Security requests for investigative, forensics, technical or training support pursuant to PDDs 39 and 63; and participation in all National Security Special Events as requested by the Secret Service under PDD 62.

Performance Databases: The Criminal Docket System (CRIMDOC) is a criminal case management, tracking and reporting system which contains information about criminal cases investigated by U.S. EPA-CID (Criminal Investigation Division) from their inception as opened investigations through case initiation, investigation, prosecution and conclusion. CRIMDOC identifies those cases that are related to homeland security or counter-terrorism.

Data Source: U.S. EPA-CID offices.

Methods, Assumptions and Suitability:

QA/QC Procedures: The system administrator performs regularly scheduled quality assurance/quality control checks of the CRIMDOC database to validate data and evaluate and recommend enhancements to the system.

Data Quality Review: N/A

Data Limitations: N/A

Error Estimate: N/A

New & Improved Data or Systems: A new case management, tracking and reporting system (Case Reporting System) with greater tracking, management, and reporting capabilities, is currently being developed that will replace CRIMDOC. This new system will also contain the relevant information for the Office of Criminal Enforcement, Forensics and Training's (OCEFT) homeland security activities and reporting requirements.

References: CRIMDOC and CRS contain enforcement-sensitive data and are not accessible by the public. Public information and annual statistics regarding the GPRA measures of the criminal enforcement program, including those related to homeland security will be reported annually in the Agency's Annual Performance Report. (www.epa.gov/ocfopage)

Coordination with Other Agencies

The Enforcement and Compliance Assurance program coordinates closely with the Department of Justice (DOJ) on all enforcement matters. In addition, the program coordinates with other agencies on specific environmental issues as described below.

The Civil Enforcement and Compliance Monitoring programs coordinate with the Chemical Safety and Accident Investigation Board, the Occupational Safety and Health Administration, and Agency for Toxic Substances and Disease Registry in preventing and responding to accidental releases and endangerment situations; with the Bureau of Indian Affairs on tribal issues relative to compliance with environmental laws on Tribal Lands, and with the Small Business Administration on the implementation of the Small Business Regulatory Enforcement Fairness Act (SBREFA).

Coordination also occurs with the U.S. Army Corps of Engineers on wetlands. Moreover, due to changes in the Food Security Act, the U.S. Department of Agriculture/Natural Resources Conservation Service (USDA/NRCS) has a major role in the determination of whether areas on agricultural lands meet the definition of wetlands and are therefore regulated under the Clean Water Act. Civil Enforcement coordinates with USDA/NRCS on these issues also. Finally, the program coordinates closely with the Department of Agriculture on the implementation of the Unified National Strategy for Animal Feedlot Operations.

EPA's Enforcement and Compliance Assurance program also coordinates with USDA on food safety issues arising from the misuse of pesticides, and shares joint jurisdiction with Federal Trade Commission (FTC) on pesticide labeling and advertising. Coordination also occurs with Customs on pesticide imports. EPA and the Food and Drug Administration (FDA) share jurisdiction over general-purpose disinfectants used on non-critical surfaces and some dental and medical equipment surfaces (e.g., wheelchairs). Finally, the Agency has entered into a Memorandum of Understanding with the Department of Housing and Urban Development concerning lead poisoning.

The Criminal Enforcement program coordinates with other federal law enforcement agencies (i.e. FBI, Customs, Treasury, U.S. Coast Guard, DOJ) and with state and local law enforcement organizations in the investigation and prosecution of environmental crimes. EPA is also actively working with DOJ to establish task forces that bring together federal, state and local law enforcement organizations to address environmental crimes. In addition, the National Enforcement Training Institute has an Interagency Agreement with the Department of Treasury to provide specialized criminal environmental training to federal, state, local, and tribal law enforcement personnel at the Federal Law Enforcement Training Center (FLETC) in Glynco, GA. NETI also coordinates with four state associations who provide training for state and local officials.

Under Executive Order 12088, EPA is directed to provide technical assistance to other Federal agencies to help ensure their compliance with all environmental laws. The Federal Facility Enforcement Program coordinates with other Federal agencies, states, and local and tribal governments to ensure compliance by federal agencies with all environmental laws.

The Civil Enforcement and Compliance Monitoring programs work closely with the states and tribes. States perform the vast majority of inspections and enforcement actions. Most EPA statutes envision a partnership between EPA and the states under which EPA develops national standards and policies and the states implement the program under authority delegated by EPA. If a state does not seek approval of a program, EPA must implement that program in the state. Historically, the level of state approvals has increased as programs mature and state capacity has expanded, and many of the key environmental programs are approaching approval of nearly all states. EPA will increase its effort to coordinate with states on training and capacity building and on enforcement.

EPA works directly with Canada and Mexico bilaterally and in the trilateral Commission for Environmental Cooperation (CEC). EPA's border activities require close coordination with the U.S. Customs Service, the Fish and Wildlife Service, the Department of Justice, and the States of Arizona, California, New Mexico, and Texas.

Statutory Authorities

Resource Conservation and Recovery Act sections 3007, 3008, 3013, and 7003 (42 U.S.C. 6927, 6928, 6934, 6973)

Comprehensive Environmental Response, Compensation, and Liability Act sections 106, 107, 109, and 122 (42 U.S.C. 9606, 9607, 9609, 9622)

Clean Water Act (CWA) sections 308, 309, and 311 (33 U.S.C. 1318, 1319, 1321)

Safe Drinking Water Act sections 1413, 1414, 1417, 1422, 1423, 1425, 1431, 1432, 1445 (42 U.S.C. 300g-2, 300g-3, 300g-6, 300h-1, 300h-2, 300h-4, 300i, 300i-1, 300j-4)

Clean Air Act sections 113, 114, and 303 (42 U.S.C. 7413, 7414, 7603)

Toxic Substances Control Act (TSCA) sections 11, 16, and 17 and TSCA Titles II and IV (15 U.S.C. 2610, 2615, 2616, 2641-2656, 2681-2692)

Emergency Planning and Community Right-to-Know Act sections 325 and 326 (42 U.S.C. 11045, 11046)

Residential Lead-Based Paint Hazard Reduction Act of 1992, section 1018 under TSCA section 11 (42 U.S.C. 4852d, 2610)

Federal Insecticide, Fungicide, and Rodenticide Act sections 8, 9, 12, 13, and 14 (7 U.S.C. 136f, 136g, 136j, 136k, 136l)

Ocean Dumping Act sections 101, 104B, 105, and 107 (33 U.S.C. 1411, 1414B, 1415, 1417)

North American Agreement on Environmental Cooperation

1983 La Paz Agreement on US/Mexico Border Region

National Environmental Policy Act (NEPA) section 102(f)

Pollution Prosecution Act of 1990 (42 U.S.C. section 4321 note)

Environmental Information Authorities

Enterprise for the Americas Initiative Act (7 U.S.C. 5404)

Environmental Research, Development, and Demonstration Act (ERDDA) of 1981

Federal Advisory Committee Act (FACA) (5 U.S.C. App.)

Federal Food, Drug and Cosmetic Act (FFDCA)

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) (7 U.S. C. 136-136y)

Food Quality Protection Act (FQPA)

Emergency Planning and Community Right-to-Know Act (EPCRA) section 313 (42 U.S.C. 110001-11050)

Government Paperwork Elimination Act (GPEA)

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) (7 U.S. C. 136-136y)

Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)

Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6901-6992k)

Safe Drinking Water Act section 1445 (SDWA) (42 U.S.C. 300f-300j-26)

Toxic Substance Control Act section 14 (TSCA) (15 U.S.C. 2601-2692)
North American Agreement on Environmental Cooperation
Freedom of Information Act (FOIA) (5 U.S.C. 552)
Paperwork Reduction Act Amendment of 1995 (44 U.S.C. 3501-3520)
Small Business Regulatory Enforcement Fairness Act
Unfunded Mandates Reform Act
Congressional Review Act
Regulatory Flexibility Act
Executive Order 12866
Executive Order 13148, "Greening the Government through Leadership in Environmental Management"
Executive Order 12915 - Federal Implementation of the North American Agreement on Environmental Cooperation
Executive Order 12916 - Implementation of the Border Environment Cooperation Commission and the North American Development Bank
Plain Language Executive Order
National Environmental Education Act
Federal Managers Financial Integrity Act (FMFIA)
Government Performance and Results Act (GPRA)
Clinger-Cohen Act
Computer Security Act
Privacy Act
Clean Air Act (CAA) (42 U.S.C. 7601-7671q)
Clean Water Act (CWA) (33 U.S.C. 1251 - 1387)
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. 9601-9675)
Congressional Review Act
CPRKA of 1986
Emergency Planning and Community Right-to-Know Act (EPCRA) section 313 (42 U.S.C. 110001-11050)

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

A Credible Deterrent to Pollution and Greater Compliance with the Law

Objective: Promote Compliance Through Incentives and Assistance.

EPA and its state, tribal, and local partners will promote the regulated community's compliance with environmental requirements through voluntary compliance incentives and assistance programs.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Promote Compliance Through Incentives and Assistance.	\$53,470.0	\$55,872.4	\$58,387.4	\$2,515.0
Environmental Program & Management	\$52,215.6	\$53,043.0	\$55,816.2	\$2,773.2
Hazardous Substance Superfund	\$473.6	\$620.1	\$321.2	(\$298.9)
State and Tribal Assistance Grants	\$780.8	\$2,209.3	\$2,250.0	\$40.7
Total Workyears	417.0	398.1	401.1	3.0

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Capacity Building	\$614.0	\$929.7	\$0.0	(\$929.7)
Compliance Assistance and Centers	\$25,328.7	\$24,728.7	\$26,771.6	\$2,042.9
Compliance Incentives	\$9,810.7	\$9,397.3	\$10,307.9	\$910.6
Facilities Infrastructure and Operations	\$5,336.7	\$5,724.1	\$5,382.8	(\$341.3)
Legal Services	\$296.0	\$321.0	\$334.1	\$13.1
Management Services and Stewardship	\$860.4	\$1,003.9	\$659.9	(\$344.0)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
NEPA Implementation	\$11,280.6	\$11,548.4	\$12,296.3	\$747.9
Regional Management	\$32.1	\$10.0	\$384.8	\$374.8
Sector Grants	\$2,209.3	\$2,209.3	\$2,250.0	\$40.7

FY 2004 Request

The enforcement and compliance assurance program uses voluntary compliance incentives and compliance assistance to increase compliance with regulatory requirements and reduce adverse public health and environmental problems. By providing compliance incentives to the regulated community, the Agency motivates and enhances the capacity of the regulated community to fully comply with the law and to voluntarily and promptly disclose and correct violations before they come to the attention of the government. Compliance assistance helps the regulated community understand and comply with environmental requirements and enables other assistance providers to enhance their efforts.

The Agency's compliance assistance efforts are directed at the regulated community as well as the network of other assistance providers. By offering clear and consistent descriptions of regulatory requirements and information on how to comply, EPA assures that the regulated community understands its obligations. Compliance assistance can also help regulated industries find cost-effective ways to comply with environmental requirements through the use of pollution prevention and innovative technologies. By developing tools and guidance materials, and making them broadly accessible, EPA enables states and other assistance providers to provide direct assistance to their constituencies. EPA will also provide access to new analytical or interpretive tools so that the public can more easily and accurately use and interpret environmental regulation and information.

In FY 2004, the Agency will continue to carry out its responsibilities under the National Environmental Policy Act (NEPA), which requires Federal agencies consider the environmental consequences of their activities. EPA prepares NEPA environmental reviews for its proposed actions, and under §309 of the Clean Air Act and NEPA, EPA reviews major actions taken by other federal agencies to ensure that adverse environmental effects are identified and either eliminated or mitigated.

Compliance Incentives

The program will continue to implement EPA's Audit/Self-Policing Policy, Small Business Compliance Policy, and Small Communities Policy as core elements of the enforcement and compliance assurance program. EPA developed its Audit/Self-Policing Policy in 1995 to encourage corporate audits and subsequent correction of self-discovered violations, and to provide a uniform enforcement response toward disclosures of violations. Under the Audit Policy, violations are discovered through voluntary environmental audits or a compliance

management system, and are promptly disclosed and expeditiously corrected. EPA will reduce gravity-based penalties by 75% for violations that are voluntarily discovered and promptly disclosed and corrected, even if not found through a formal audit or compliance management system.

EPA is currently working on many efforts to encourage corporate self-disclosures, including efforts in the telecommunications, petroleum, and iron and steel industries. Through FY 2002, approximately 2,000 entities have disclosed violations at nearly 7,000 facilities. EPA has settled with approximately 1,050 entities at almost 5,000 facilities. The Agency will continue to expand use of the Audit Policy through aggressive outreach to particular industries. EPA is interested in encouraging disclosures at multiple facilities owned by the same regulated entity because such disclosures allow entities to review their operations holistically and benefit the environment.

The EPA Small Business Compliance Policy is intended to promote environmental compliance among small businesses by providing them with special incentives such as penalty reductions to use compliance assistance and other voluntary means to identify, disclose, and correct violations. This policy meets EPA's obligations under the Small Business Regulatory Enforcement Fairness Act to provide a penalty reduction program for small entities. EPA has worked with stakeholders to modify the policy to encourage greater participation and continues to seek further ways to encourage small businesses to seek compliance assistance and utilize the policy. As part of its 2004 marketing and outreach activities for this approach, EPA will work with small business compliance assistance providers to develop tools useful to small businesses in understanding applicable environmental requirements and help businesses take advantage of the flexibility offered by the policy. The Agency will promote and implement its revised Small Communities Policy, which encourages states to provide flexibility to small communities seeking assistance in addressing environmental problems. EPA will provide incentives for states to adopt the policy and for communities to utilize the policy.

In FY 2004, the compliance incentives program will continue to promote the use of environmental management systems (EMS), including ISO 14001. Specifically, the ISO 14001 standard requires that a community or organization put in place and implement a series of practices and procedures that, when taken together, result in an EMS. EMSs offer companies and other regulated entities an innovative approach to managing their environmental impacts by integrating environmental concerns into business decisions and practices. EPA will continue to work with a variety of domestic and international stakeholders, including the North American Commission for Environmental Cooperation, other federal agencies, state and local governments, industry, and non-governmental organizations to promote the use of EMSs and to explore ways in which regulators can encourage the use of EMSs to enhance environmental performance.

The Enforcement and Compliance Assurance program will also continue to work on implementing the two-tiered National Environmental Performance Track program. The first tier, the National Environmental Achievement Track (NEAT), is a program designed to motivate and reward companies and other regulated entities that are top environmental performers, and to recognize facilities that have consistently met their legal requirements, implemented EMSs, and

made tangible improvement to their environmental performance. Entry criteria include showing established implementation of an EMS, presenting a record of continued compliance, certifying current compliance, demonstrating specific environmental achievements and committing to future improvements, and committing to public outreach and annual performance reporting (including summaries of audit findings). Incentives for participation include Agency recognition, lowered priority for routine inspection, access to Audit Policy penalty mitigation, and recognition of good faith participation in the program in any discretionary penalty assessment. The enforcement and compliance program's low inspection priority incentive was the first flexibility offered as an incentive to NEAT participants.

In addition, the Enforcement and Compliance Assurance program will continue to participate in Project XL (eXcellence in Leadership) projects, projects under the EPA/state regulatory innovation agreement, and other reinvention partnerships. The enforcement program will focus on ensuring these projects are legally enforceable where necessary, and provide accountability and transparency for participants (including Federal and non-Federal facilities). The program will also assist in verifying and evaluating project results.

The Enforcement and Compliance Assurance program is funding the enhancement and transfer of the innovative Massachusetts Environmental Results Program (ERP). ERP consists of a set of three linked tools including compliance assistance, inspections, and performance measurement, tied to an annual certification of compliance signed by a senior company official. ERP has improved performance for small business sectors and resulted in savings for these businesses, allowing states and EPA to focus resources on higher priority environmental problems. In FY 2004, the Enforcement and Compliance Assurance program is dedicating funding and other resources towards expanding this effort. The program will also continue to provide technical and legal assistance to states developing an ERP, as well as fostering the sharing of information and materials developed between states.

The enforcement and compliance program will also work to enhance market incentives for responsible environmental performance. Disclosure of environmental information promotes responsible behavior and ensures that markets value environmental performance. The United States securities regulatory system relies on registrants' full disclosure of various kinds of information, including the registrant's environmental liabilities, to current and potential shareholders as the primary means of ensuring informed investments and the proper functioning of the market. EPA's Enforcement and Compliance Assurance program notifies parties to EPA-initiated administrative enforcement actions of their potential duty to disclose the proceeding to the Securities and Exchange Commission (SEC). In FY 2004, EPA will continue to promote the full and fair disclosure of environmental information to the public in accordance with the SEC's requirements, and to facilitate the public's use of this information to positively influence environmental performance.

Compliance Assistance

The Compliance Assistance program provides information and technical assistance to the regulated community to increase its understanding of all statutory and regulatory environmental requirements, thereby gaining measurable improvements in compliance and reducing risk to

human health and the environment. The program also provides tools and assistance to other compliance assistance providers enabling them to more effectively help the regulated community comply with environmental requirements. To support improving compliance in specific industrial, commercial and government sectors with certain regulatory requirements, the program will continue to develop and implement integrated compliance assurance strategies using a framework for addressing environmental problems to develop baseline compliance information, use the right tool mix of tools to address the particular problem, then measure and evaluate the effectiveness of our efforts. EPA will also continue to develop compliance assistance tools and provide these to the regulated community. Compliance tools may range from plain-language guides, comprehensive sector-based documents (such as the Sector Notebooks that include information on industry-specific manufacturing processes and pollution issues), environmental audit protocol manuals, fact sheets, checklists, newsletters, our web-based clearinghouse, or interactive, virtual, sector-based compliance assistance centers.

In FY 2004, the Agency will pursue major roles in compliance assistance by continuing to strategically tailor EPA's role in direct delivery of compliance assistance and to focus on targeted initiatives for particular sectors or environmental problems. First, the Agency will continue to build the network of compliance assistance providers by strengthening the partnerships among providers and distributing and marketing tools to assistance providers that work more directly with the regulated community. These activities include: convening a compliance assistance exchange forum composed of public and private sector representatives to share information on best practices, priority setting, outcome measurement and new compliance assistance materials; coordinating an inter-agency roundtable of Federal compliance assistance programs; and maintaining and enhancing a clearinghouse of compliance assistance materials available from federal, state and local governments and trade associations. New materials will be added to the clearinghouse within 30 days of receipt. Second, EPA will continue to work with stakeholders to identify compliance assistance needs and priorities. Third, EPA will strengthen the infrastructure of the compliance assistance program within the Agency and improve planning with states and other stakeholders to ensure needs and priorities identified by stakeholders are met. EPA will compile Agency and State activities in the Compliance Assistance Activity Plan, which will serve as a catalog of upcoming available tools and materials. Finally, EPA will strategically target direct delivery of compliance assistance where particular sectors or environmental problems warrant national attention. Through public outreach and communication efforts, including press releases and newsletters, EPA will publicize its compliance assistance efforts and help the regulated community anticipate and prevent violations of federal environmental laws that could otherwise lead to enforcement actions. This catalog will guide the Agency's compliance assistance activities.

The Sector Facility Indexing Project (SFIP) will continue in FY 2004. SFIP allows the public to monitor the records of nearby facilities, provides the regulated community with a means of comparing performance against competitors, and assists government agencies in making cross-media comparisons. EPA is committed to increasing use of the SFIP by raising public awareness of the project, ensuring customer satisfaction with the information provided, and sustaining the utility of the SFIP as a compliance and analytical tool. SFIP will be coordinated with other projects to make data available to the public.

EPA will continue to support the ten mature Compliance Assistance Centers and the development of content for the three newest Centers for auto salvaging, construction and the US - Mexican Border. EPA will also begin to work with partners to develop three new Centers. Possible candidates include a tribal center, centers for schools, and the plastics industry. The Centers are a key component of EPA's efforts to help small and medium-sized businesses and governments better understand and comply with Federal environmental requirements. The Centers provide small businesses in selected industry sectors and governments one-stop shopping for regulatory and technical assistance, pollution prevention activities, and other information particularly suited to the individual sectors. Operated in partnership with industry associations, environmental groups, universities and other government agencies, the Centers are accessible through Internet web sites as well as toll-free telephone assistance lines. The Agency will continue to develop, implement, and improve the Compliance Assistance Center Platform (Platform), the base from which to launch new sector-specific, topical, or geographic Internet-based Compliance Assistance Centers. The Platform provides a suite of comprehensive web-based tools necessary to create new, full-featured Centers. In addition, the Platform will ensure efficient integration of technology and content and reduce the financial barriers to creating new Centers. Under a cooperative agreement with EPA, the National Center for Manufacturing Sciences (NCMS) will operate the Platform and collaborate with industry, states, tribes, and compliance assistance providers to establish Centers that help the regulated community better understand and more efficiently comply with environmental requirements.

Center program enhancements include the following:

- Support to new sectors, geographical areas, or environmental topics. Additional funding will enable the initiation of three new Centers.
- Improve and expand state-specific information in the new and existing Centers. Of particular interest is the inclusion of state regulatory requirements to the existing Center virtual plant or facility tours. Development of an on-line template for use by states to include state regulatory information to existing Center resources is an option.
- Augment the Environmental Management, Auditing and Pollution Prevention Tool (EMAPPT) with state data. This web-based tool provides federal and state regulatory requirements, pollution prevention opportunities and information on establishing environmental management systems for over 150 facility processes.
- Pilot Center on-site visits to advance assistance and measurement capabilities.
- Support Expert System Development.
- Enhance the Compliance Assistance Platform.
- Integrate the Centers and Clearinghouse with the "Business Compliance Assistance One-Stop" (One-Stop) initiative. Visitors to the One-Stop Website will be directed to applicable compliance information through a customized "userprofiler." Center content will be integrated into this effort to ensure relevant sector-specific information is

provided to the "One-Stop" users. The "One-Stop" initiative is one of the President's 24 e-government initiatives.

- Develop and expand access to Environmental Management System (EMS) information through the Centers.
- Expand content sharing capabilities among Center partners, states, and other providers.
- Improve Center recognition through the EPA search engine.
- Conduct annual survey of Centers' users.

The Agency will also develop and distribute multimedia and sector-based materials, limited targeted on-site assistance, and services such as hotlines and training sessions to the regulated community to improve industry's regulatory and technical knowledge. EPA will promote adoption of innovative technologies, including waste minimization. In FY 2004, EPA plans to reach 500,000 entities through the compliance assistance program. The Agency will also continue to work with the Compliance Assistance Advisory Committee to help ensure broad stakeholder input in identifying new approaches and directions for the national compliance assistance program. The Enforcement and Compliance Assurance program will take action to better incorporate compliance assistance into the rule making, planning, and priority setting processes, and work with the program offices and States to coordinate compliance assistance efforts.

EPA has tested methodologies designed to measure change resulting from targeted compliance assistance. The result is an improved ability to measure the effectiveness of various strategies, better understanding of environmental obligations on the part of the regulated community, and more facilities' support for efforts to improve facility management practices to address compliance concerns and reduce pollution. For example, EPA will use surveys to measure the outcomes resulting from use of the Compliance Assistance Centers and the Clearinghouse as well as our workshops and the Compliance Assistance Providers Forum. EPA will more strategically focus its measurement efforts and provide tools and training to facilitate measurement of the outcomes of our compliance assistance activities. These results will be incorporated into reporting to the Integrated Compliance Information System (ICIS). We will continue to partner with states and other assistance providers to improve approaches to measuring compliance and environmental results.

EPA has maintained a sector based, multi-media grants assistance program to states and tribes over the past several years to both build and foster innovations in compliance. The Agency focused this multi-media grants program in three areas: 1) Data Quality/Data Modernization; 2) Public Access to Enforcement and Compliance Assurance Data; and 3) Compliance Assistance Outcome Measurement. Each of these three funding priorities was selected to enhance State and Tribal capability and capacity in emerging areas. Through September 30, 2002, EPA competitively awarded funds through grants or cooperative agreements, totaling \$2,200,000. EPA intends to continue supporting the development of performance measurement within State and Tribal governments. The projected outcomes of

these grants will be the enhanced capability of states and tribes to assess the effectiveness of their efforts through improved compliance rates; reductions in pollutants released to the environment and citizens served.

The Federal facility enforcement program will continue to provide technical guidance to other Federal agencies concerning their compliance with executive orders, pollution prevention requirements, and applicable environmental laws at Federal facilities. EPA will maintain and expand the Federal Facility Compliance Assistance Center in order to deliver compliance assistance to Federal agencies concerning regulatory requirements. EPA will develop and deliver compliance assistance for new major EPA regulations and Executive Orders in selected program areas. EPA will work with other Federal agencies on implementing the Federal Code of Environmental Management Principles (CEMP) through agency- or bureau-wide environmental management system assessments and environmental management reviews at specific federal facilities. EPA will also support pollution prevention opportunity assessments and similar evaluations at Federal facilities.

National Environmental Policy Act (NEPA) Implementation

EPA's Enforcement and Compliance Assurance program reviews environmental impacts of proposed major federal actions as required by NEPA, §309 of the Clean Air Act, the Antarctic Science, Tourism, and Conservation Act (ASTCA), and the Executive Order on environmental justice; and develops policy and technical guidance on issues related to NEPA, the Endangered Species Act, the National Historic Preservation Act and relevant Executive Orders. The program emphasizes cooperation with other Federal agencies to ensure compliance with applicable environmental laws and better integration of pollution prevention and ecological risk assessment into their programs, while targeting high impact federal program areas, such as water resources and transportation/energy related projects. In FY 2004, the Agency will continue to work with other federal agencies to streamline and improve their NEPA process in such key areas as approvals of highways and airport expansions, disposition of mercury and chemical weapons stockpiles, hydro-power/nuclear power plant relicensing and other energy-related projects, flood control and port development projects, and management of national forests and public lands. In FY 2004, EPA will review all major proposed federal actions under NEPA and achieve successful mitigation for at least 70 percent of the adverse environmental impacts resulting from those actions in order to preserve air and water quality, wetlands, aquatic and terrestrial habitats, and endangered species; protect Environmental Justice communities; and prevent degradation of other environmental values. The program also manages the Agency's official filing activity for all federal Environmental Impact Statements (EIS) in accordance with a Memorandum of Understanding with the Council on Environmental Quality.

The NEPA Implementation program also guides EPA's own compliance with NEPA and other applicable statutes, and related environmental justice requirements. These efforts include EPA-issued new source National Pollutant Discharge Elimination System (NPDES) permits where a state/tribe has not assumed the NPDES program, for offshore oil and gas sources, for Clean Water Act (CWA) wastewater treatment plant grants, and for special appropriation grants for wastewater, water supply and solid waste collection facilities. In FY 2004, EPA will ensure 100 percent of the NEPA obligations of the water treatment facility grants and water discharge

permits are met and that 90 percent of the projects result in no significant adverse environmental impact.

FY 2004 Change from FY2003 Request

EPM

- (+\$2,042,900, +4.9 FTE) This increase includes an investment of \$1 million which will enable the initiation of three new Compliance Assistance Centers, improve and expand state-specific Centers information, conduct an annual survey of the Centers (rather than bi-annual) and integrate the Centers with the "Business Compliance Assistance One-Stop" (One-Stop) initiative. Remaining increase includes funding for payroll, cost of living, and enrichment for existing FTE and FTE shifted from capacity building for program support.
- (+\$374,800, +3.9 FTE) This change represents the distribution of resources for Regional Information Management across all Regions.
- (-\$489,700, -0.8 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

GOAL: A CREDIBLE DETERRENT TO POLLUTION AND GREATER COMPLIANCE WITH THE LAW

OBJECTIVE: PROMOTE COMPLIANCE THROUGH INCENTIVES AND ASSISTANCE.

Annual Performance Goals and Measures

Compliance Incentives

- | | |
|---------|--|
| In 2004 | Increase opportunities through new targeted sector initiatives for industries to voluntarily self-disclose and correct violations on a corporate-wide basis. |
| In 2003 | Increase opportunities through new targeted sector initiatives for industries to voluntarily self-disclose and correct violations on a corporate-wide basis. |
| In 2002 | The number of facilities that participated in voluntary self-audit programs, disclosed and corrected violations greatly exceeded the target. |

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Facilities voluntarily self-disclose and correct violations with reduced or no penalty as a result of EPA self-disclosure policies.	1467	500	500	Facilities

Baseline: EPA developed its Audit/Self-Policing Policy in 1995 to encourage corporate audits and subsequent correction of self-discovered violations. That Policy as well as the Small Business Compliance Policy were modified in FY00. The Agency is working to expand the use of the Audit Policy through aggressive outreach to specific sectors. In FY01 the performance measure was modified to reach settlements with 500 facilities to voluntarily self-disclose and correct violations. This same measure has been carried continued.

Regulated Communities

In 2004 Increase the regulated community's compliance with environmental requirements through their expanded use of compliance assistance. The Agency will continue to support small business compliance assistance centers and develop compliance assistance tools such as sector notebooks and compliance guides.

In 2003 Increase the regulated community's compliance with environmental requirements through their expanded use of compliance assistance. The Agency will continue to support small business compliance assistance centers and develop compliance assistance tools such as sector notebooks and compliance guides.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of facilities, states, technical assistance providers or other entities reached through targeted compliance assistance (core optional)		475,000	500,000	Entities

Baseline: EPA provides clear and consistent descriptions of regulatory requirements to assure that the community can understand its obligations. EPA supports initiatives targeted toward compliance in specific industrial and commercial sectors or with certain regulatory requirements. Compliance assistance tools range from plain-language guides, fact sheets, checklists and newsletters. New distribution methods include the on-line Clearinghouse. In FY03, EPA is planning to reach 475,000 facilities, states, or technical assistance providers through targeted compliance assistance efforts.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Facilities voluntarily self-disclose and correct violations with reduced or no penalty as a result of EPA self-disclosure policies.

Performance Database: EPA's Headquarters manages information on the self-disclosing policies in ICIS (Phase I).

Data Source: EPA's Headquarters and regional offices enter the information. The data for ICIS is generated through the use of the Case Conclusion Data Sheet (CCDS), which is prepared by Agency staff after the conclusion of each criminal and civil (judicial and administrative) enforcement action. The CCDS was implemented by EPA in 1996 and captures the relevant information on the results and environmental benefits of the concluded enforcement cases. ICIS stores information on the self-disclosing policies.

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: Procedures are in place for both the CCDS and for ICIS entry. There are separate CCDS Calculation and Completion Checklists [See references] to be filled out at the time the CCDS is completed.

Data Quality Review: Information contained in the CCDS and ICIS are reviewed by Regional and Headquarters staff for completeness and accuracy.

Data Limitations: None

Error Estimate: N/A

New & Improved Data or Systems: ICIS now stores information on self-disclosing policies. These policies have been tracked since FY 2000.

References: Case Conclusion Data Sheets: Case Conclusion Data Sheet, Training Booklet, issued November 2000: www.epa.gov/compliance/resources/publications/planning/caseconc.pdf; Quick Guide for Case Conclusion Data Sheet, issued November 2000. ICIS: U.S. EPA, Office of Enforcement and Compliance Assurance, ICIS Phase I, implemented June 2002. Internal EPA database; non-enforcement sensitive data available to the public through the Freedom of Information Act (FOIA).

FY 2004 Performance Measure: Number of facilities, states, technical assistance providers or other entities reached through targeted compliance assistance.

Performance Database: EPA's Headquarters manages data on the number of entities reached through targeted compliance assistance in the Reporting Compliance Assistance Tracking System (RCATS).

Data source: EPA's Headquarters and regional offices enter information in RCATS upon completion and delivery of media and sector-specific compliance assistance including workshops, training, on-site visits and distribution of compliance assistance tools.

A new measurement tool, the Inspection Conclusion Data Sheet, (ICDS) will be used to analyze the results from inspections conducted under some of EPA's major statutes. EPA will analyze data on communication of problems to industry, compliance assistance delivered by inspectors, and immediate corrections made by industry according to region, nationally and by industry sector.

Methods, Assumptions and Suitability: N/A

QA/QC: Automated data checks and data entry guidelines [See references are in place for RCATS.

Data Quality Review: Information contained in the RCATS are reviewed by EPA regional and Headquarters' staff for completeness and accuracy.

Data Limitations: These are very simple data. However, due to the cyclical nature of reporting, there will be a tendency for information to lag in currency until the end of the fiscal year. Additionally, because this information is recorded in summary fashion, rather than by

specific facility, verification of individual data that make up the summaries is not systematically possible.

Error Estimate: Not available.

New & Improved Data or Systems: EPA plans to incorporate RCATS into ICIS in the future.

References: RCATS: U.S. EPA Office of Enforcement and Compliance Assurance. Internal EPA database. Guidance: RCATs User Guide of March 19, 2001.

Coordination with Other Agencies

EPA's Enforcement and Compliance Assurance Agricultural Compliance Assistance Center will continue to coordinate with the U.S. Department of Agriculture (USDA). The Center has two Interagency Agreements with USDA to award funds to Land Grant Universities to develop compliance and pollution prevention materials.

The Agency works, in addition, with US Customs to ensure safe import and export of hazardous and toxic materials. The compliance assistance program is also working with a number of federal agencies, including Occupational Health and Safety Administration (OSHA), Small Business Administration (SBA), Internal Revenue Service (IRS) and others to establish a "Federal Compliance Assistance Roundtable" to collaborate on compliance assistance approaches and coordinate efforts to more effectively reach and provide assistance to the regulated community.

EPA works closely with the states as they provide an increasing amount of compliance incentives and assistance. The Compliance Assistance Centers have been coordinating with the states to assist them in their outreach efforts to industry, to facilitate their delivery of sector-specific regulatory information, to serve as the delivery mechanism for their pollution prevention and compliance assistance material, and to build their capacity to meet the environmental needs of the businesses in their states and localities.

The Enforcement and Compliance Assurance program works with states prior to and following enactment of state audit privilege and immunity legislation to identify and express the Agency's policy and legal concerns. EPA has adopted a pragmatic, problem-solving approach to addressing legal adequacy in specific states that have enacted audit privilege and immunity laws. EPA and the states use a process to identify legal impediments to federal program authorization resulting from the state's law. The impediments can then be addressed through tailored statutory amendments, or a state Attorney General opinion interpreting the law consistent with federal requirements, or both. EPA has completed this process in 22 states. By the end of FY 2004, EPA anticipates including three additional states in this process.

The Enforcement program also works with the Securities and Exchange Commission (SEC) and the Department of Justice (DOJ) on activities to encourage increased disclosure of corporate environmental performance information by public companies. The SEC and DOJ have reviewed EPA research on the level of compliance with SEC environmental disclosure

regulations. They also commented on an EPA notice to be distributed in administrative enforcement actions, which informs publicly traded companies of their duty to disclose environmental legal proceedings pursuant to SEC regulations.

The Agency is required to review environmental impact statements (EIS) and other major actions impacting the environment and public health proposed by all federal agencies, and make recommendations to the proposing federal agency on how to remedy/mitigate those impacts. Although EPA is required under § 309 of the Clean Air Act (CAA) to review and comment on proposed federal actions, neither the National Environmental Policy Act nor § 309 CAA require a federal agency to modify its proposal to accommodate EPA's concerns. EPA does have authority under these statutes to refer major disagreements with other federal agencies to the Council on Environmental Quality (CEQ). Accordingly, many of the beneficial environmental changes or mitigation that EPA recommends must be negotiated with the other federal agency. The majority of the actions EPA reviews are proposed by the Forest Service, Department of Transportation (including Federal Highway Administration and Federal Aviation Administration), Army Corps of Engineers, Department of the Interior (including Bureau of Land Management, Minerals Management Service and National Park Service), Department of Energy (including Federal Regulatory Commission), and Department of Defense.

EPA's National Environmental Justice Program holds regular meetings with agencies named in Executive Order 12898 to review the environmental justice activities underway; to develop appropriate training tools; and to discuss participation in the National Environmental Justice Advisory Council (NEJAC).

Statutory Authorities

Resource Conservation and Recovery Act sections 3007, 3008, 3013, and 7003 (42 U.S.C. 6927, 6928, 6934, 6973)

Comprehensive Environmental Response, Compensation, and Liability Act sections 106, 107, 109, and 122 (42 U.S.C. 9606, 9607, 9609, 9622)

Clean Water Act (CWA) sections 308, 309, and 311 (33 U.S.C. 1318, 1319, 1321)

Safe Drinking Water Act section 1413, 1414, 1417, 1422, 1423, 1425, 1431, 1432, 1445 (42 U.S.C. 300g-2, 300g-3, 300g-6, 300h-1, 300h-2, 300h-4, 300i, 300i-1, 300j-4)

Clean Air Act section 113, 114, 303, and 309 (42 U.S.C. 7413, 7414, 7603, 7609)

Toxic Substances Control Act (TSCA) sections 11, 16, and 17 and TSCA Titles II and IV (15 U.S.C. 2610, 2615, 2616, 2641-2656, 2681-2692)

Residential Lead-Based Paint Hazard Reduction Act of 1992 section 1018 under TSCA section 11 (42 U.S.C. 4852d, 2610)

Emergency Planning and Community Right-to-Know Act section 325 and 326 (42 U.S.C. 11045, 11046)

Federal Insecticide, Fungicide, and Rodenticide Act sections 8, 9, 12, 13, and 14 (7 U.S.C. 136f, 136g, 136j, 136k, 136l)

Ocean Dumping Act sections 101, 104B, 105, and 107 (33 U.S.C. 1411, 1414B, 1415, 1417)

National Environmental Policy Act (NEPA)

Antarctic Science, Tourism, and Conservation Act (ASTCA)

Endangered Species Act (ESA)

Statutory Authorities for Environmental Justice

National Environmental Education Act

Federal Managers Financial Integrity Act (FMFIA)

Government Performance and Results Act (GPRA)

Clinger-Cohen Act

Computer Security Act

Privacy Act

Freedom of Information Act (FOIA)

Clean Air Act (CAA) (42 U.S.C. 7601-7671q)

Clean Water Act (CWA) (33 U.S.C. 1251 - 1387)

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. 9601-9675)

Emergency Planning and Community Right-to-Know Act (EPCRA) section 313 (42 U.S.C. 110001-11050)

Federal Advisory Committee Act (FACA) (5 U.S.C. App.)

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) (7 U.S. C: 136-136y)

Pollution Prevent Act (PPA) (42 U.S.C. 13101-13109)

Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6901-6992k)

Safe Drinking Water Act (SDWA) section 1445 (42 U.S.C. 300f-300j-26)

Toxic Substance Control Act (TSCA) section 14 (15 U.S.C. 2601-2692)

North American Agreement on Environmental Cooperation

Freedom of Information Act (FOIA) 5 U.S.C. 552)

Paperwork Reduction Act Amendment of 1995 (44 U.S.C. 3501-3520)

Small Business Regulatory Enforcement Fairness Act (SBREFA)

Unfunded Mandates Reform Act

Congressional Review Act

Regulatory Flexibility Act

Executive Order 12866

Plain Language Executive Order Emergency Planning and Community Right-to-Know Act

Pollution Prevention Act

Federal Fungicide, Insecticide and Rodenticide Act

Federal Food, Drug and Cosmetic Act

Safe Drinking Water Act
Federal Managers Financial Integrity Act
Government Performance and Results Act
Paperwork Reduction Act
Freedom of Information Act
Computer Security Act
Privacy Act
Electronic Freedom of Information Act
Government Paperwork Elimination Act

Goal 10: Effective Management

Environmental Protection Agency
2004 Annual Performance Plan and Congressional Justification
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Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Effective Management

Strategic Goal: EPA will maintain the highest-quality standards for environmental leadership and for effective internal management and fiscal responsibility by managing for results.

Resource Summary (Dollars in thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Effective Management	\$443,458.1	\$460,815.7	\$468,826.6	\$8,010.9
Provide Leadership	\$47,027.5	\$49,850.6	\$51,380.5	\$1,529.9
Manage for Results Through Services, Policies, and Operations.	\$176,749.8	\$201,230.9	\$198,525.6	(\$2,705.3)
Provide Quality Work Environment.	\$166,878.6	\$156,141.5	\$162,127.5	\$5,986.0
Provide Audit, Evaluation, and Investigative Products and Services	\$52,802.2	\$53,592.7	\$56,793.0	\$3,200.3
Total Workyears	2,009.9	1,942.2	1,890.9	-51.3

Background and Context

The programs under this Goal are designed to deliver services that enable EPA program offices to make results-based decisions and meet environmental protection goals in a cost-effective manner. Sound leadership, proactive management of human resources, policy guidance, innovation, quality customer service, consultation with stakeholders, results-based planning and budgeting, fiscal accountability, and careful stewardship of our resources provide the foundation for everything EPA does to advance the protection of human health and the environment.

Developing and carrying out these policies and services is accomplished through focus on front-line customer services and measuring results. EPA routinely consults and coordinates with industries, communities and other customers and partners to identify emerging issues and develop strategies to meet shared objectives. In addition, work under this goal ensures that EPA's management systems and processes are supported by independent evaluations that promote operational integrity and program efficiency and effectiveness, allowing us to obtain the greatest return on taxpayer investments.

Activities under this goal support the full range of Agency activities for a healthy and sustainable environment and include the following areas:

- Effective vision and leadership;
- Results-based planning and budgeting;
- Fiscal accountability;
- Quality customer service;
- Professional development of the Agency workforce;
- Independent evaluation of Agency programs;
- Investment in core infrastructure;
- Streamlined business processes;
- Program integrity;
- Management of human resources; and
- Performance-based procurement.

EPA's strategy for providing effective management specifically addresses the major challenges facing the Federal government as a whole. EPA's management objectives align closely with the President's Management Agenda:

- ***Strategic Management of Human Capital:*** The Agency's Human Capital Action Plan will build on the work we have accomplished for FY 2002 and plan for FY 2003, and implement several new initiatives, including: a mechanism to recruit and retain talented researchers; a program to attract desirable skills and competencies through a multi-media approach; and, targeted electronic recruitment that links with one of the leaders in private-sector electronic recruitment.
- ***Improved Financial Performance:*** To further strengthen grants management, EPA is developing a long-term strategic plan. The Agency's five-year Strategic Plan for Grant's Management will focus on: developing a skilled grants management workforce; promoting grant competition; enhancing the Agency's oversight program; and improving accountability, coordination and resource management of grants. The Agency continues to make significant progress on the replacement of its aging financial management systems, and will focus on completing the Agency payroll implementation plan, making recommendations for replacing EPA's integrated financial management system, and developing desk-top access to key cost accounting and performance information.
- ***Competitive Sourcing:*** EPA has worked diligently to implement the Agency's Competitive Sourcing Action Plan and received a "green" Executive Scorecard progress score from OMB. To sustain this progress, EPA has formed an Agency-wide team to adopt an ongoing, strategic approach to Competitive Sourcing. In FY 2004, the full-time, senior team members will benchmark best practices, identify candidate positions for competition or conversion, and provide suggestions to better align future Federal Activity Inventories with the Competitive Sourcing process.
- ***Budget and Performance Integration:*** EPA received a "green" Executive Scorecard progress score from OMB, and the Agency will continue improving the quality of its

performance goals and measures and restate them more closely to environmental outcomes across its goals. In FY 2004, the Agency will develop new sources of performance data, improve the quality and usability of existing data sources, and develop tools to set strategic priorities and track performance.

- *E-Government:* The Agency's financial systems modernization initiative, which is framed by the Agency's Enterprise Architecture development efforts, is being designed to make maximum use of enabling technologies for e-Government, including e-Grants, e-Procurement, e-Payroll, and e-Travel. (See Goal 7 for the full discussion of the Agency's strategy for e-government issues.)

Means and Strategy

The Agency will continue to provide vision, leadership, policy and oversight for all its programs and partnerships. It will employ management strategies to advance the protection of human health and the environment. Strategies that cut across all organizational boundaries and are imperative to performing the Agency's mission are:

- Developing partnerships with stakeholders to ensure mutual goals are met;
- Committing to manage human resources; foster diversity; and work to secure, develop, empower, and retain talented people to accomplish the Agency's environmental mission;
- Promoting energy efficiency and Green procurement, and, maintaining a safe, healthy, and productive work environment for EPA employees;
- Implementing streamlined systems and processes in grants and contracts/management;
- Promoting cost-effective investment in environmental protection and public health through sound stewardship and responsible results-based management. EPA works to achieve this goal through keeping pace with technological change, meeting accounting standards, consulting with customers and stakeholders, and improving delivery of services;
- Providing responsive and accountable management;
- Assessing management challenges and program risks identified by Congress, oversight agencies, EPA's Office of Inspector General (OIG) and state and Tribal partners; and
- Recognizing the special vulnerability of children to environmental risks and facilitating the intensified commitment to protect children.

In FY 2004, the Agency will continue its emphasis on the implementation of the Human Capital Action Plan. In addition to improving current programs, new initiatives in FY 2004 include a focused program to recruit and retain talented researchers; a pilot outreach and recruiting program to attract desirable skills and competencies and carried out through a multi-

media approach; and, targeted electronic recruitment that links with one of the leaders in private-sector electronic recruitment. These efforts support the President's Management Agenda and provide a comprehensive approach to managing human capital.

In continuing to provide a quality work environment that is energy conscious and values employee safety and security, the Agency will implement repair and improvement projects at several EPA facilities. These facilities provide the tools essential to research innovative solutions for current and future environmental problems and enhance our understanding of environmental risks. In FY 2004, EPA's goals in this area are aimed at reducing energy consumption at its facilities by encouraging the use of new and advanced technologies and energy savings performance contracts.

The Agency will ensure a high level of integrity and accountability in the management of grants and contracts to protect Federal funds from waste, fraud, and abuse so taxpayers receive the full benefit of the government's investment in environmental protection. In FY 2004, the EPA will focus on strengthening grants management by improving monitoring and auditing of grants management activities, which will strengthen the Agency's ability to ensure that grantees comply with both administrative and programmatic grant requirements. These efforts support the President's Management Agenda for Improved Financial Performance.

By building on the success of its integrated planning, budgeting, and accountability processes and initiatives, EPA promotes the implementation of the Government Performance and Results Act (GPRA) to ensure sound stewardship of Agency fiscal resources. As part of this effort, the Agency is improving its capabilities to use performance data and other information to make cost-effective investments for environmental results. EPA collaborates extensively with partners and stakeholders to forge the partnerships required for shared approaches to meeting the challenges of GPRA. EPA consults with internal customers on fiscal management services to meet their needs for timeliness, efficiency and quality.

Audit, evaluation, investigative, and advisory products and services contribute to effective management by facilitating the accomplishment of the Agency's mission. Specifically, audits, evaluations, and advisory services lead to improved economy, efficiency, and effectiveness in EPA business practices and assist in the accomplishment of environmental goals. Investigations detect and deter fraud and other improprieties which undermine the integrity of EPA programs and resources. All OIG work is focused on the anticipated value it will have on influencing resolution of the Agency's major management challenges, reducing risk, improving management and program operations, and saving taxpayer dollars while leading to the attainment of EPA's strategic goals.

The Agency will continue its commitment to protect children's health by targeting resources towards activities that will ensure that the decisions and actions taken by the Agency consider risks to children, including working to develop sound scientific information to provide the basis for these decisions and actions. The Agency will also provide policy direction and guidance on equal employment opportunity and civil rights. The Agency's Administrative Law Judges and its Environmental Appeals Board Judges will issue decisions on administrative complaints and environmental adjudications, respectively, in a timely manner.

Strategic Objectives

- Provide Leadership
- Manage for Results Through Services, Policies, and Operations
- Provide Quality Work Environment
- Provide Audit, Evaluation, and Investigative Products and Services

Highlights

In support of the President's Management Agenda, the Agency will build on on-going efforts to strategically manage its human capital action plan. In FY 2004, EPA will focus on several key several key human capital initiatives; the Senior Executive Service (SES) Candidate Development Program, Management Development Program, and New Skills/New Options Development Program. The Agency plans to hire 20 additional interns using the EPA Intern Program and will enroll 50 candidates in the SES Candidate Development Program. These programs constitute key components in *Investing in Our People, EPA's Strategy for Human Capital*, and address Agency concerns over the potential loss of leadership, institutional knowledge and senior management expertise.

The Agency is committed to strengthening grants management and moving toward a green light in improved financial performance under the President's Management Agenda. In FY 2004, EPA's efforts will focus on post-award monitoring, including managing the administrative on-site review contractors, analyzing trends in grantee noncompliance, conducting desk reviews, and identifying potential candidates for on-site reviews. In addition, the Agency will implement its five-year strategic plan for grant's management and work via the Grant Competition advocate to ensure compliance with the new EPA Order on Grant Competition.

Agency management provides vision and leadership, and conducts policy oversight for all Agency programs. Sound management principles, practices, results-based planning and budgeting, fiscal accountability, quality customer service, rational policy guidance and careful stewardship of our resources are the foundation for everything EPA does to advance the protection of human health and the environment. The effectiveness of EPA's management systems, polices and procedures will determine, in large measure, how successful we will be in pursuit of the other goals identified in the Agency's annual plan.

In FY 2004, EPA will build on its progress in linking resources to environmental results through goal-based fiscal resource management. The Agency will provide more useful cost accounting information for environmental decision-making. EPA will make continued progress in assessing the environmental results of its program activities. Highlights of expected Agency FY 2004 achievements in effective management are:

- Expand Agency and state partner capacity to manage for results through support for the improvement of the quality and use of performance measures.
- Meet new Federal requirements for timely financial information and maintenance of a clean audit opinion on the Agency's financial statements to demonstrate the highest

caliber of resource stewardship and the credibility and reliability of Agency financial information.

- Continue efforts to provide decision-makers with integrated cost and performance information to support results-based management and progress on environmental priorities. FY 2004 efforts will focus on:
 - ▶ continued implementation phases for replacing EPA's integrated financial management system;
 - ▶ further development of desk-top access to key cost accounting and performance information;
 - ▶ continue improvement of the delivery of core financial management customer services;
 - ▶ provide Agency decision-makers with useful, reliable, and timely cost information associated with key results-based environmental information; and
 - ▶ further integration of cost and performance information.

The OIG will conduct and supervise independent and objective audits, evaluations, and investigations relating to Agency management and program operations, and will provide advisory and assistance services. The OIG will also review and make recommendations regarding existing and proposed legislation and regulations impacting the Agency. In addition, program evaluations/audits and four other types of audits will be conducted: contract, assistance agreement, financial statement, and systems audits. Four types of investigations will be performed: program integrity, assistance agreement, contract and procurement, and employee integrity.

The OIG Computer Crimes Unit will conduct investigations of computer intrusions, support the OIG and Agency personnel as a Penetration Testing laboratory, and provide a Forensics laboratory to assist with OIG investigations. Further, the OIG will receive, analyze, and facilitate the resolution of citizens' complaints regarding Agency programs and activities as part of the ombudsman function. Combined, these activities promote economy, efficiency, and effectiveness within the Agency, prevent and detect fraud, waste, and abuse, and contribute to improved environmental quality and human health. The OIG will keep the EPA Administrator and Congress informed fully of problems and deficiencies identified in Agency management and program operations and the necessity for corrective actions.

EPA will continue its commitment to protect children's health. The Agency will direct resources toward the programs that reduce risks to children from a range of environmental hazards. In 2004, the Agency will continue to work to decrease the frequency and severity of asthma attacks in children through reduction and avoidance of key asthma triggers, including environmental tobacco smoke, prevalent indoor allergens and ambient air pollution. The Agency will continue efforts to reduce children's exposure to lead, particularly in low income minority

neighborhoods, where children living in older housing are much more likely to be exposed to lead.

External Factors

EPA would be affected by limited availability of environmental data required to measure results and make decisions relating resources to results.

The ability of the Office of Inspector General to accomplish its annual performance goals is dependent, in part, on external factors. Indictments, convictions, fines, restitutions, civil recoveries, suspensions, and debarments are affected by the actions of others (e.g., the Department of Justice). In addition, the prosecutive criteria established within various jurisdictions (e.g., dollar thresholds) can affect the number of investigative cases.

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Effective Management

Objective: Provide Leadership

Provide vision, national and international leadership, executive direction, and support for all Agency programs.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Provide Leadership	\$47,027.5	\$49,850.6	\$51,380.5	\$1,529.9
Environmental Program & Management	\$47,027.5	\$49,850.6	\$51,380.5	\$1,529.9
Total Workyears	306.4	311.4	310.6	-0.8

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Administrative Law	\$2,684.0	\$2,869.8	\$2,930.3	\$60.5
Childrens Health, Program Development and Coordination	\$6,099.0	\$6,670.9	\$6,710.4	\$39.5
Civil Rights/Title VI Compliance	\$10,143.6	\$11,770.7	\$12,113.8	\$343.1
Environmental Appeals Boards	\$1,667.3	\$1,737.7	\$1,774.8	\$37.1
Executive Support	\$3,113.0	\$3,121.2	\$3,178.5	\$57.3
Facilities Infrastructure and Operations	\$5,226.9	\$4,492.7	\$4,646.6	\$153.9
Immediate Office of the Administrator	\$4,175.9	\$4,343.7	\$4,413.9	\$70.2
Intergovernmental Relations - OA	\$2,167.4	\$2,292.7	\$2,447.3	\$154.6

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Legal Services	\$3,979.2	\$4,360.4	\$4,528.7	\$168.3
Management Services and Stewardship	\$405.1	\$430.6	\$315.4	(\$115.2)
Regional Management	\$7,546.5	\$7,760.2	\$8,320.8	\$560.6

FY 2004 Request

The Agency's environmental protection framework is based on partnerships with state and Tribal governments. They are challenging their leaders to adopt tough but achievable goals for the environment including cleaner air, purer water, and better protected lands. EPA must meet these challenges while offering people and institutions the flexibility to find cost-effective ways to achieve those goals. Agency management will provide the vision and leadership needed to enable EPA to meet its commitments to protect public health and the environment in FY 2004 and beyond.

EPA will work with the states and negotiate performance partnerships with the states to agree on environmental outcomes that the states will achieve using resources they receive from the Agency. Resources dedicated to Regional management will serve to coordinate and implement, at the Regional level, the Administrator's management priorities, from an integrated cross-programmatic and multi-media point of view. They will also serve to implement integrated data management and Internet activities at the Regional level, in support of the E-Government provisions of the President's Management Agenda.

EPA will continue its commitment to protect children's health. The Agency will direct resources toward the programs that reduce risks to children from a range of environmental hazards. In FY 2004, the Agency will focus on research and analyses to provide scientific and economic information needed to address the heightened risks faced by children from environmental contaminants. The Agency will continue to work to decrease the frequency and severity of asthma attacks in children through reduction and avoidance of key asthma triggers, and to reduce children's exposure to lead, particularly in low income minority neighborhoods where children living in older housing are much more likely to be exposed to lead. We will continue to build partnerships and work with other Federal agencies, states, health care providers, and international organizations to incorporate children's environmental health into their programs and activities. We will also work with our state, local and other partners to provide information and tools to make school environments healthy places for children to learn and grow.

In FY 2004, policy, direction, and guidance will be provided within the Agency on equal employment opportunity, civil rights and diversity issues. The Agency will continue to work diligently to process all Title VII internal employment discrimination complaints as expeditiously as possible, with less than 10% of the total complaints inventory in a backlog

status. Appropriate training will be provided to Office of Civil Rights (OCR) staff to conduct Title VII counseling and investigations. EPA will continue to administer and monitor the implementation of affirmative employment programs. Furthermore, the Agency will manage special emphasis programs designed to improve the representation, utilization, and retention of minorities, women, and persons with disabilities in the Agency's workforce. Finally, the external compliance program, including Title VI of the Civil Rights Act of 1964, will prohibit discrimination in programs and activities that receive financial assistance from EPA. EPA will also issue Title VI guidance on limited English proficiency in accordance with guidelines established by the Department of Justice and develop/implement a Title VI compliance review program.

The Environmental Appeals Board (EAB) will issue final Agency decisions in environmental adjudications on appeal to the Board. These decisions are the end point in the Agency's administrative enforcement and permitting programs. The right of affected persons to appeal these decisions within the Agency is conferred by various statutes, regulations and constitutional due process rights. The Administrative Law Judges (ALJs) will preside in hearings and issue decisions in cases initiated by EPA's enforcement program concerning those accused of environmental violations under various environmental statutes. The ALJs have increased their use, in recent years, of alternative dispute resolution techniques to facilitate the settlement of cases and, thereby, avoid more costly litigation. Recently, the EAB and ALJs acquired access to videoconferencing technology that can also be used to reduce the expenses for all parties involved in the administrative litigation process.

The Office of Executive Support will provide the Agency with management infrastructure services, including personnel, administrative, budget, planning, integrity, ethics, computer support, information management security, and financial management support. The Office will assist managers and supervisors in hiring a qualified and diverse staff in accordance with the Agency's affirmative action and human resource management programs and principles. This Office will also provide the expertise, reports, financial analyses, program analyses, and related information that managers need to make decisions and understand the resource implications of their management decisions. Automated data processing and information resource management support will also be provided to meet the increasing information resource needs of the Agency, as well as development and implementation of information management security policies needed to protect electronic data.

FY 2004 Change from FY 2003 Request

There are increases for payroll, cost of living and enrichment for new and existing FTE.

Verification and Validation of PMs

None

Coordination with Other Agencies

The Administrator co-chairs, along with the Secretary of the Department of Health and Human Services, the Interagency Task Force on the Protection of Children from Environmental Health Risks. About 15 Federal cabinet departments, agencies and White House councils are members of the Task Force. EPA performs the staff work for the Task Force.

Statutory Authority

Administrative Procedure Act

Civil Rights Act of 1964, Title VI

Civil Rights Act of 1964, Title VII

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Effective Management

Objective: Manage for Results Through Services, Policies, and Operations.

Demonstrate leadership in managing for results by providing the management services, administrative policies, and operations to enable the Agency to achieve its environmental mission and to meet its fiduciary and workforce responsibilities and mandates.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Manage for Results Through Services, Policies, and Operations.	\$176,749.8	\$201,230.9	\$198,525.6	(\$2,705.3)
Environmental Program & Management	\$147,699.4	\$164,431.9	\$169,323.4	\$4,891.5
Hazardous Substance Superfund	\$28,207.5	\$35,352.7	\$27,899.6	(\$7,453.1)
Leaking Underground Storage Tanks	\$663.6	\$1,194.4	\$1,073.3	(\$121.1)
Oil Spill Response	\$6.2	\$53.2	\$52.5	(\$0.7)
Science & Technology	\$173.1	\$198.7	\$176.8	(\$21.9)
Total Workyears	1,325.3	1,243.1	1,181.2	-61.9

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Environmental Finance Center Grants (EFC)	\$2,000.0	\$2,000.0	\$2,000.0	\$0.0
Facilities Infrastructure and Operations	\$50,675.0	\$54,819.0	\$55,131.4	\$312.4

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Legal Services	\$4,614.5	\$4,964.6	\$5,136.0	\$171.4
Management Services and Stewardship	\$63,826.6	\$67,328.8	\$86,300.8	\$18,972.0
Planning and Resource Management	\$56,295.3	\$62,791.1	\$44,830.9	(\$17,960.2)
Public Access	\$1,429.0	\$0.0	\$0.0	\$0.0
Regional Management	\$8,934.6	\$7,725.1	\$3,380.5	(\$4,344.6)
Regulatory Development	\$1,608.0	\$1,602.3	\$1,746.0	\$143.7

FY 2004 Request

In FY 2004 Agency activities to support results-based decision-making and sound financial stewardship include the following activities: Strategic Planning, Annual Planning and Budgeting, Financial Services, Financial Management, Analysis, and Accountability. Through these activities the Agency provides executive direction for the Agency's budget, financial, and resource management functions; develops and manages a results-based management system; manages the annual planning and budgeting process; provides financial accounting and fiscal services to the Agency; operates and maintains the Agency's integrated financial management system; provides support to the Agency's Superfund cost recovery efforts; prepares the annual financial statements and performance reports; and coordinates the planning and budgeting process for the Agency Working Capital Fund. In addition, EPA's Environmental Financing Program assists states and localities in meeting their critical environmental infrastructure needs in a sustainable manner. The program provides grants to a network of university-based Environmental Finance Centers which, in turn, provide training, expert advice, education, and analysis to states, local communities and small businesses. As part of Agency efforts to provide the American public with innovative, market-based programs and services, EPA actively reviews programs as part of its Federal Activities Inventory Reform (FAIR) Act process.

In FY 2004, Regional Information Technology (IT) organizations will continue to provide support to local program offices in the areas of hardware requirements determination, software programming and applications, records management systems, data base services, Local Area Network (LAN) activities, intranet web design, and desktop support. EPA's environmental information efforts require the Agency to ensure that its keeping pace with the states and tribes in the areas of data collection, management, and utilization. Consequently, in FY 2004 EPA will emphasize its state data management grants, both from an IT and grants management perspective. Additionally, EPA will continue to focus on information security and the need for each Region to have an internal IT security capacity. The Regions will implement Agency information resources management policies in areas such as data and technology standards, central data base services, and telecommunications. The Regions will also operate Regional Centers for Environmental Information in both the Regional offices and laboratories. The

Regions will also continue to work with Headquarters on the implementation of cost accounting procedures to capture in detail all IT expenditures for all EPA offices.

Resources within this objective are aligned with four of the five initiatives outlined in the President's Management Agenda: Strategic Management of Human Capital, Competitive Sourcing, Improved Financial Performance, and Budget and Performance Integration. The fifth initiative, E-Government, is discussed in Goal 7.

Grants Management

A key component of this objective is the Agency's management of contracts and grants, which are in support of EPA's environmental mission. In FY 2004, the Agency will increase its investment to strengthen grants management. Resources will be used to: obtain contractor support to perform administrative on-site reviews and grant closeouts; provide training and technical assistance to Tribal and non-Tribal recipients on administrative grant requirements, including establishment of a grantee clearinghouse; pre-certify financial systems of non-profit recipients; and develop a comprehensive training program on grant competition. These efforts will enhance the management of our grants to support our environmental programs.

Strategic Management of Human Capital

To date, EPA has accomplished several important milestones in implementing its Human Capital Action Plan. The Agency has successfully implemented the EPA Intern Program, which attracts highly skilled new talent to the Agency. The Agency has also implemented a Management Development Program, which is aimed at equipping managers with cutting edge management skills and techniques, and a Senior Executive Service Development Program, which focuses on identifying and training the next level of senior leadership at EPA. In FY 2004, additional resources are needed to strengthen and optimize existing programs. These efforts will allow the Agency to provide a continuity of service in existing programs and expand current efforts to include new initiatives. In addition to these ongoing efforts, the Agency will implement new initiatives, including a mechanism to recruit and retain talented researchers that EPA may not otherwise be able to attract through implementation of a focused pilot program (not subject to Title V) to hire up to five researchers a year with a salary cap of \$200,000; a pilot outreach and recruiting program to attract desirable skills and competencies and carried out through a multi-media approach; and, targeted electronic recruitment that links with one of the leaders in private-sector electronic recruitment.

The Agency will implement an Innovation Fund which will foster results-oriented projects that will better integrate human capital efforts into the Agency's day to day work. As the Agency prepares for the potential retirement of a significant portion of its workforce, these products and tools will provide the foundation for the development of the Agency's next generation of leaders. It will also enable the Agency to build a workforce with the skills, flexibility, diversity of background and outlook to pursue this Agency's environmental mission by building into its structure the flexibility needed to quickly redeploy critical mission skills.

In addition, an investment is required to support the Agency's new Human Resources Management System (HR Pro). Fully deployed, HR Pro will provide a faster, more efficient means of conducting a full range of human resources business processes. The corporate human resources system will also provide an extensive workforce information data repository to support management planning and decision-making functions while serving as the authoritative source of "people" information for integration, synchronization and/or consolidation of stand-alone systems across the agency.

Competitive Sourcing

EPA received a "green" Executive Scorecard progress score from OMB for its diligent work to implement the Agency's Competitive Sourcing Action Plan. The goal of the Plan is to promote cost effective and efficient services to the public through a productive Federal Activities Inventory Reform (FAIR) Act process. EPA successfully met and exceeded its FY 2002 competitive sourcing goal of directly converting or holding competitions on 5 percent of its FAIR Act inventory, and is well on its way to meeting the FY 2003 goal of 15 percent of its FAIR Act inventory. To sustain this progress and achieve the ultimate 50 percent goal, EPA has formed an agency-wide team to adopt an ongoing, strategic approach to Competitive Sourcing. The team of full-time, senior team members will benchmark best practices, identify candidate positions for competition or conversion and provide suggestions and guidance to better align future Inventories with the Competitive Sourcing process. After Agency Senior Executives have approved the team's suggestions, and adopted an Agency plan, resources will be devoted to ongoing implementation.

Improved Financial Performance

In FY 2004, the Agency will continue development of innovative approaches to meet Federal financial management challenges and continue to improve the delivery of core financial management customer services. EPA's financial management innovations are focused on providing Agency decision-makers with useful, reliable, and timely cost information associated with key results-based environmental information. By integrating cost and performance information, the Agency can further improve its capacity to manage for results and better support environmental priorities.

EPA, along with other Federal agencies, is facing unprecedented challenges in trying to meet both internal and external stakeholders' increasing expectations for more efficient and effective stewardship of resources and a results-based approach to managing those resources. The challenges associated with meeting stakeholder demands are augmented by a dynamic technical landscape, rapidly emerging technologies, and evolving independent, executive and legislative requirements.

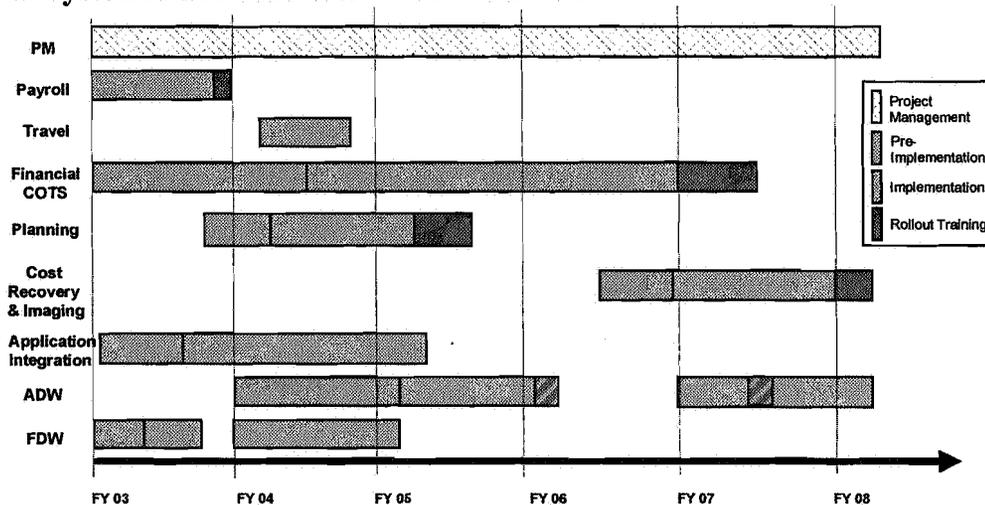
Key to improving financial performance is EPA's financial systems modernization initiative. This initiative is based on a phased, modular program to replace key elements of the Agency's aging systems. EPA began replacement of its 30 year old payroll system in 2001, and is now partnering with the Department of Agriculture to deploy a modern Commercial Off The Shelf (COTS) application under the Administration's e-Payroll initiative. Since its

implementation in 1989 the Agency's core financial system has been based on the Federal Financial System (FFS) software. Over the past decade, new requirements and demands have been placed on this system; however, implementation of changes needed to meet these requirements has been costly both in time and resources. When the FFS system was unable to accommodate EPA's needs, new systems were developed to track or house information. The result is a partially integrated system that supports strategic planning, annual planning and budgeting, financial management and services, and accountability functions.

The financial systems modernization initiative is fully aligned with the goals and strategies under the President's Management Agenda, especially those related to Budget and Performance Integration, Improved Financial Performance, and E-Government. In addition, this work is framed by the Agency's Enterprise Architecture development efforts, and is being designed to make maximum use of enabling technologies for E-Government initiatives, including E-Grants, E-Procurement, E-Payroll and E-Travel. The Agency's financial systems architecture provides the supporting infrastructure for EPA and enables the organization to achieve its environmental goals.

The proposed acquisition and implementation timeframe of the modernization program is from FY 2003 to FY 2007.

Financial Systems Modernization Transition Plan



The methodology used to implement this multi-year initiative will incorporate phased, modular deployments of system elements designed to deliver real benefits in the short term while work on longer term projects is ongoing. This will allow us to effectively meet evolving Federal requirements for cost accounting; include re-engineered and streamlined business processes; improve compliance with security and privacy requirements; and provide managers, supervisors and employees with ready access to data for analysis. Overall, the initiative will generate almost \$74 million in savings over the expected life cycle of the new system, when compared to the cost of the current systems environment. Benefits of the implementation methodology include:

- Implementation of the Enterprise Application Integration (EAI) project at the beginning of the lifecycle allows EPA to realize EAI benefits (e.g., standardization of interface

protocols, use of common interface functional capabilities, and management of communications with internal or external systems) early in the process. Additionally, it reduces the complexity/risks associated with the implementation of the Financial COTS on several accounts:

- The Financial COTS implementation team is no longer concerned with establishing or determining how interfaces to and from the system will be accomplished (i.e., separation of concerns).
- The Financial COTS team needs only to develop a single interface to the enterprise "hub" through a standard method and process. It does not need to create multiple interfaces to multiple systems using methods and processes that could prove to be incompatible with each other.
- Should the implementation of the Financial COTS take longer than expected, EPA would have already achieved a higher level of integration and ease of interface maintainability among its legacy systems, thus effectively extending the lifecycle of its legacy systems.
- Early implementation of the Financial Data Warehouse (FDW) project addresses current and short-term financial reporting needs of EPA early in the lifecycle. In addition, early implementation of FDW allows Administrative Data Warehouse (ADW) to evolve at a steady and non-constrictive pace.
- Later implementation of the Cost Recovery and Imaging project allows EPA ample time to analyze those EPA unique and critical cost recovery requirements not supported by the Financial COTS. Results of this analysis may result in streamlined cost recovery processes jointly supported by the Financial COTS and Cost Recovery and Imaging applications.
- Extended pre-implementation timeframes for the Financial COTS provide a greater degree of certainty that the selected Joint Financial Management Improvement Program (JFMIP) certified financial package will more closely meet EPA's requirements.
- Extended implementation timeframes for the ADW provide a greater degree of certainty that ADW components will not require reengineering. ADW components are implemented only after the source application (e.g., Financial COTS, Cost Recovery and Imaging) is fully operational. The Payroll application will be the first to be integrated into the ADW as its implementation is completed first.
- Implementation of Planning is scheduled to provide sufficient time to have the application in place and fully implemented for use during the budget formulation process, which begins on March 1, 2005.

OCFO Activity	Specific Actions	Drivers
1. Improve Financial Performance	<ul style="list-style-type: none"> • Automate internal processes to reduce costs internally and within the Federal government by disseminating best practices across agencies • Support compliance with Federal laws and regulations • Support the operating, policy, and budget decision-making through improved timeliness • Streamline financial transactions and reengineering processes using best business practices • Expand the use of web-based technologies • Improve management of obligations to the Federal government by continuing to improve debt collection practices • Institute quarterly financial statements • Accelerate end of year reporting • Measure system compliance with agency ability to meet OMB and Treasury requirements 	<ul style="list-style-type: none"> • The President's Management Agenda (PMA) • OMB Circular A-127, JFMIP, GPRA, FFMLA, and FASAB • PMA • The Federal Financial Management 5 Year Plan and PMA • PMA • The Federal Financial Management 5 Year Plan
2. Improve Financial Service to the Customer	<ul style="list-style-type: none"> • Create easy-to-find single points of access to government services for individuals • Ensure IT investments minimize the redundancy and maximize the integration within an agency, as well as maximizing the interoperability between agencies • Develop financial management systems that provide timely, useable, reliable, and accessible financial information and reports to increase accountability and improve decision making and program management • Provide tools and reports that enable managers to budget and assess the full cost of programs and activities • Offer common administrative services to achieve efficiencies and reduce cost • Explore electronic processing options for Grants • Streamline grant payment delivery • Support government-wide efforts to manage grant funds online through a common web site • Support government-wide electronic business processes, such as e-procurement • Re-engineer reporting processes and expand the use of web-based technologies 	<ul style="list-style-type: none"> • PMA • ITMRA, PMA • The Federal Financial Management 5 Year Plan • PMA and FASAB Standards • The Federal Financial Management 5 Year Plan • PMA • CFO Council • PMA • PMA • PMA
3. Maintain a Secure Financial System Environment	<ul style="list-style-type: none"> • Maintain a secure systems environment • Undertake a Public Key Infrastructure (PKI) to promote digital signatures for transactions within the Federal government • Integrate cost-effective security into government information systems to enable, and not unnecessarily impede, Agency business operations 	<ul style="list-style-type: none"> • The Federal Financial Management 5 Year Plan • PMA • Executive Order on Critical Infrastructure Protection in the Information Age dated October 16, 2001

OCFO Activity	Specific Actions	Drivers
4. Improve Financial Accountability	<ul style="list-style-type: none"> • Ensure sound accounting standards that provide the basis for EPA financial statements, and for consistent and reliable information • Prepare annual financial statements and obtain "clean" unqualified opinions • Require comparative financial statements • Report specific financial performance measurements 	<ul style="list-style-type: none"> • The Federal Financial Management 5 Year Plan • The Federal Financial Management 5 Year Plan • PMA • PMA
5. Improve Performance and Budget Integration	<ul style="list-style-type: none"> • Support the integration of program performance review with program budget decisions, and the production of performance based budgeting • Support the identification and monitoring of high quality performance measures and outcome measures of programs, and provide support for competitive sourcing initiatives. • Integrate financial and performance information 	<ul style="list-style-type: none"> • PMA • PMA • PMA

Budget and Performance Integration

The FY 2004 request includes resources for the Agency to develop new capacities to improve the quality and use of performance measures. This work is part of EPA's overarching endeavor to develop results-based goals and evaluate the Agency's work in terms of its impact on human health and the environment. The Agency has integrated Planning, Budgeting, Analysis, and Accountability (PBAA) processes to support EPA's implementation of GPRA. In FY 2004, EPA plans to continue to support program efforts to develop more outcome-based annual goals and measures, develop new sources of performance data, improve the quality and usability of existing data sources, and develop tools to set strategic priorities and track performance.

These objectives will be achieved through targeted efforts with EPA programs and state partners. This effort will support results-based management through a variety of potential approaches such as: addressing data gaps to develop more outcome oriented measures and goals, increasing state use of environmental data and performance information in environmental policy and management decisions, promoting integration of information on environmental conditions with other management systems used to make environmental policies and management decisions, supporting development of statistical models for linking program outputs and environmental improvements, and developing best practices and case studies based on current successful EPA or state environmental management efforts.

As part of these efforts, EPA will continue to consult with its partners and stakeholders (states, Tribes, local government, other Federal agencies, environmental associations, industry groups, the EPA Science Advisory Board) and the Congress and OMB. EPA will work to link annual plans to long-term goals and objectives of the Agency. Our continued work with state governments through the Environmental Council of the States (ECOS) and Tribal governments will ensure collaboration and cooperation with respect to the Agency's short- and long-term goals and objectives. In the development of the Agency's Annual Plan, EPA will involve the Agency's regulatory partners (principally states and Indian tribes) in identifying short- and long-term program priorities that can be considered in EPA's planning efforts.

EPA will report on the results of its Annual Plan implementation in the Agency's consolidated Annual Report, which provides information on the status of performance goals and measures and progress toward strategic objectives. The Annual Report provides Congress and the public a comprehensive picture of EPA's program, financial and management performance, including the results of annual performance goals and measures described in the Agency's revised final FY 2003 Annual Plan.

In addition to assessing the Agency's performance results and progress toward its longer-term strategic objectives, the Annual Report also summarizes the results of EPA's work to comply with the Federal Managers' Financial Integrity Act and the Inspector General Act Amendments. The Agency continuously assesses the effectiveness of EPA management controls, vulnerabilities and challenges, and monitors progress on audit closeout.

Procurement

In FY 2004, the Agency will increase the number of contracts that are performance-based, improve electronic commerce capabilities, and enhance the education of its contract workforce. The Procurement Executive Council (PEC) has established a Federal-wide goal in FY 2004 that 40% of contracts be performance-based. EPA intends to meet this goal by converting more program requirements to performance-based contracting, increasing training on how to use this type of contract, and providing outreach to the programmatic areas with percentage target.

In addition, the Agency will meet the President's initiative on electronic commerce by:

- extending the use of electronic signatures;
- developing interfaces with all current Agency-wide systems involved in the buying and paying process;
- evaluating and working to eliminate paper-processing in the acquisition process;
- completing development and implementation of the Program Office Interface (POI), which will allow EPA program managers to electronically manage their contracts; and
- posting solicitations to the General Services Administration's (GSA) FEDBIZOPPS system as the single point of entry for vendors to government purchasing.

To meet the President's goal that 90 percent of all acquisition employees meet mandatory training requirements by 2005, the Agency will improve the qualifications and education of its contract workforce by providing appropriate training opportunities and establishing and enforcing mandatory training requirements.

FY 2004 Change from FY 2003 Request

Multi-Appropriation

- (+\$4,000,000 EPM and +\$1,000,000 SF) With this increase in non-payroll resources, EPA will fulfill the FY 2004 phase of modernizing major Agency financial systems to provide decision-makers with integrated cost and performance information and timely and reliable financial information and reports to increase accountability and improve decision-making and program management. FY 2004 efforts will focus on completing the Agency payroll implementation plan that will reduce costs and burdens, making recommendations for replacing EPA's integrated financial management system, and further developing desk-top access to key cost accounting and performance information.

EPM

- (+\$1,082,400 and +1.7 FTE) This increase reflects an effort to strengthen grants management. This increase will lead to a substantial reduction in the number of adverse findings in Inspector General audit reports and on site reviews; increased compliance by non-profit recipients with administrative grant requirements; and a pool of recipients trained on EPA grant requirements. *(Note: The total increase to Grants Management in FY 2004 is \$1,700,000 and 7.0 FTE. The amount shown reflects the increase to this particular goal, objective. The remainder is reflected in other goals and objectives, as a result of the Agency Grant Distribution methodology, which allocates grant resources in proportion to Headquarters grants resources located in each goal and objective.)*
- (+\$1,300,000) This increase supports the Agency's automated Human Resources Management System (HR Pro) and the increased operational costs associated with this system. These resources will improve the integrity of employee and organization data; provide online, real time access to that data; decrease personnel action processing times; and provide more accurate and timely management information.
- (+\$600,000 and +3.0 FTE) This increase will enhance the Agency's ability to align its Human Capital Strategy Plan with the President's Management Agenda and the Agency's mission and strategic objectives. The FTE increase will be used to support the SES Candidate Development Program, Management Development Program, and New Skills/New Options Module.
- (+\$300,000) This increase provides additional resources for EPA's participation in the Integrated Acquisition E-Government initiative.
- (+\$1,136,900) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants

resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. (Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)

Superfund

- (-\$6,911,200) Adjustments in resource allocations reflect changes to existing distribution accounts to support Capital Planning and Investment Control (CPIC) projects in the amount of \$1,000,000, and the establishment of two new distribution accounts to improve allocation of regional Financial Services costs (\$2,900,000) and headquarters Integrated Financial Management Systems (IFMS) costs in the amount of \$3,000,000.

There are additional increases for payroll, cost of living and enrichment for new and existing FTE.

GOAL: EFFECTIVE MANAGEMENT

OBJECTIVE: MANAGE FOR RESULTS THROUGH SERVICES, POLICIES, AND OPERATIONS.

Annual Performance Goals and Measures

Strengthen EPA's Management

- In 2004 Strengthen EPA's management services in support of the Agency's mission while addressing the challenges included in the President's Management Agenda
- In 2003 Strengthen EPA's management services in support of the Agency's mission while addressing the challenges included in the President's Management Agenda
- In 2002 EPA prepared and submitted its FY 2001 financial statements and received a clean audit opinion.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Agency's audited Financial Statements and Annual Report are submitted on time.	Goal Met			Statements/Rpt.
EPA's audited Financial Statements receive an unqualified opinion and provide information that is useful and relevant to the Agency and external parties.	Goal Met			finan statement
Cumulative number of Agency offices using the workforce planning model which identifies skills and competencies needed by the Agency for strategic recruitment, retention and development planning.		5	10	Offices
Percentage of total eligible service contracting dollars obligated as performance based in FY2003.		30	40	Percent
Agency audited Financial Statements are timely, and receive an unqualified opinion.		1	1	Finan statement

Baseline: The Agency's audited FY 2004 Financial Statements will be submitted on time to OMB and receive an unqualified opinion. Based on FY 2002 performance baselines are: zero for number of Agency offices using the workforce planning model and 20% for performance-based contracts.

Verification and Validation of Performance Measures

Performance Measure: Number of Agency offices using the workforce planning model which identifies skills and competencies needed by the Agency for strategic recruitment, retention and developmental training.

Performance Database: No database. Agency staff track manually.

Data Source: Agency staff.

QA/QC Procedures: N/A

Data Quality Review: N/A

Data Limitations: N/A

New/Improved Data or Systems: N/A

Performance Measure: Agency's audited Financial Statements are timely and receive an unqualified opinion.

Performance Database: N/A

Data Source: OMB acknowledgement of receipt of financial statements, OIG audit report.

QA/QC Procedures: OCFO management review, OIG audit

Data Quality Review: OIG audit

Data Limitations: N/A

New/Improved Data or Systems: N/A

Performance Measure: Percentage of total eligible service contracting dollars obligated as performance based.

Performance Database: The Integrated Contracts Management System (ICMS), which has an identifier to show which contracts are performance based and the dollars associated with it.

Data Source: Agency personnel inputs data into ICMS.

QA/QC Procedures: N/A

Data Quality Review: N/A

Data Limitations: N/A

New/Improved Data or Systems: ICMS was updated in order to track this performance measure.

Coordination with Other Agencies

PA will develop and issue guidance for executive agencies to use when purchasing goods and services in response to Executive Order 13101 to show a preference for "environmentally preferable" products and services.

To achieve its mission, OCFO has undertaken specific coordination efforts with federal and state agencies and departments through two separate vehicles: 1) the National Academy of Public Administration's Consortium on Improving Government Performance; 2) active contributions to standing interagency management committees, including the Chief Financial Officers Council and the Federal Financial Managers' Council. These groups are focused on improving resources management and accountability throughout the Federal government. OCFO also coordinates appropriately with Congress and other federal agencies, such as Department of Treasury, Office of Management of Budget, and the General Accounting Office.

Statutory Authority

Federal Manager's Financial Integrity Act (1982)

The Chief Financial Officers Act (1990)

The Prompt Payment Act (1982)

The Government Performance and Results Act (1993)

Government Management Reform Act (1994)

Inspector General Act of 1978 and Amendments of 1988

Title 5 United States Code

Annual Appropriations Act

EPA's Environmental Statutes, and the Federal Grant and Cooperative Agreement Act

Federal Acquisition Regulations (FAR), contract law, and EPA's Assistance Regulations (40CFR Parts 30, 31, 35, 40, 45, 46, 47)

Clinger-Cohen Act

Paperwork Reduction Act

Freedom of Information Act

Computer Security Act

Privacy Act

Electronic Freedom of Information Act

Comprehensive Environmental Response, Compensation and Liability Act

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Effective Management

Objective: Provide Quality Work Environment.

Effectively conduct planning and oversight for building operations and provide employees with a quality work environment that considers safety, new construction, and repairs and that promotes pollution prevention within EPA and with our state, tribal, local, and private partnerships.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Provide Quality Work Environment.	\$166,878.6	\$156,141.5	\$162,127.5	\$5,986.0
Building and Facilities	\$30,452.8	\$42,918.0	\$42,918.0	\$0.0
Environmental Program & Management	\$87,460.4	\$80,105.9	\$84,328.9	\$4,223.0
Hazardous Substance Superfund	\$23,917.0	\$21,608.3	\$23,368.3	\$1,760.0
Leaking Underground Storage Tanks	\$954.3	\$1,018.4	\$1,021.4	\$3.0
Oil Spill Response	\$541.4	\$451.9	\$451.9	\$0.0
Science & Technology	\$23,552.7	\$10,039.0	\$10,039.0	\$0.0
Total Workyears	18.5	15.4	27.2	11.8

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Facilities Infrastructure and Operations	\$58,464.4	\$100,221.3	\$101,513.8	\$1,292.5
Homeland Security-Protect	\$30,040.0	\$19,000.0	\$19,288.0	\$288.0

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
EPA Personnel/Infrastructure				
Legal Services	\$140.2	\$150.6	\$157.2	\$6.6
Management Services and Stewardship	\$61,807.7	\$8,974.0	\$12,097.7	\$3,123.7
Regional Management	\$18,807.3	\$20,416.7	\$27,724.0	\$7,307.3
Regional Program Infrastructure	\$6,132.2	\$6,032.1	\$0.0	(\$6,032.1)
Superfund Remedial Actions	\$1,346.8	\$1,346.8	\$1,346.8	\$0.0

FY 2004 Request

This objective supports the Agency's goal for Effective Management through the construction of new facilities, and the design and establishment of state-of-the-art laboratories. These facilities provide the tools essential to research innovative solutions to current and future environmental problems and enhancing our understanding of environmental risks. In addition, EPA is well engaged in reducing energy use needed to operate these facilities. In FY 2004, the Agency will continue to improve operating efficiency and encourage the use of new and advanced technologies and energy savings performance contracts.

In FY 2004, the Agency intends to redirect the New Headquarters Project construction funding of \$3.1M to support energy conservation and other repair and improvement projects. By the close of FY 2003, we will have completed the construction activities at the Complex and will be focusing resources on funding follow-on costs, as well as internal office moves that are planned as part of the EPA Headquarters consolidation effort.

Resources in this objective will also be used to comply with Executive Orders (EO) 13149, *Greening the Government through Federal Fleet and Transportation Efficiency* and EO 13123, *Greening the Government through Efficient Energy Management*.

EO 13149 requires that by FY 2005, petroleum use be 20% lower than that in 1999. EPA will direct resources towards acquiring alternative fuel vehicles and more fuel-efficient passenger cars and light trucks to meet this goal. EO 13123 requires a 20 percent reduction of energy consumption (per square foot or per unit production) in laboratory facilities by FY 2005. The Agency will attain this goal through several initiatives including comprehensive facility energy audits, sustainable building design in Agency construction and alteration projects, energy savings performance contracts to achieve energy efficiencies, the use of off-grid energy equipment, energy load reduction strategies, and the use of Energy Star products and buildings.

Homeland Security

The FY 2004 request includes resources to enhance security background checks and improve the background investigation process for employees, contractors, and grantees. Since September 11, 2001, many programs and offices are re-evaluating position sensitivity designations and security levels for staff to determine if a higher security clearance is needed to adequately support Homeland Security efforts and preparedness for emergency responses. The additional recruitment of emergency response personnel and the creation of additional emergency response command posts will also increase the number of employees that must be processed by the personnel security staff. In FY 2004, the workload of EPA's personnel security office is expected to increase by 60 - 70% as the staff assumes a broader mandate to ensure that all grantees and EPA contractor personnel are investigated for suitability and that employment of these persons are also consistent with national security interests.

The FY 2004 request supports an increased focus on strengthening the Agency's physical infrastructure security. EPA is currently conducting physical security vulnerability risk assessments to develop a baseline on the physical security conditions of EPA's facilities. This includes gathering, assimilating and evaluating physical security data; identifying and documenting the security vulnerabilities, assessing human threat; and determining and prioritizing the qualitative risks. In FY 2004, we will continue to implement physical security countermeasures, including perimeter, entrance/exit, and interior security (e.g., protecting air intakes, utilities, and hazardous materials.) In addition, the Agency will:

- Incorporate technological advancements into existing physical security countermeasures.
- Mitigate residual vulnerabilities and risks identified in assessments.
- Enhance physical security of mail rooms against biological agents.
- Safeguard facilities against explosive agents.
- Provide funding for the security guard costs associated with increased need since September 11.

FY 2004 Change from FY 2003 Request

Multiple Appropriations

- (+\$1,097,300 EPM and +\$833,800 SF) This increase provides additional resources for Regional moves and health and safety cost increases.

EPM

- (+\$1,000,000) This increase will support the full implementation of an Environmental Management System (EMS) for EPA's own operations, facilities and employees (as required under Executive Order 13148). The FY 2004 resources will (1) provide technical and site assistance to the 36 official EMS reporting sites, (2) allow EPA Health and Safety staff prepare for and conduct internal EMS self-certification audits and other support costs associated with external certification efforts in accordance with the International Standards Organization, and (3) enhance and continue an FY 2003 senior management development program which provides Agency executives with an improved understanding of their roles in implementing a successful EMS within EPA. This funding is essential if the Agency is to attain compliance with Executive Order 13148 and assume a leadership role on EMS in the Federal government.
- (+\$288,00 and +3.0 FTE) This increase will enhance the efforts and support additional workloads placed on the current staff dedicated to Security. FTE will support EPA facility security and help ensure that every applicant or appointee to the Agency is investigated for suitability, and sensitive position placement is consistent with national security interests. In addition, a new effort will begin to develop the capability to conduct background investigations of contractor and grantee personnel.
- (-\$3,327,200) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

There are additional increases for payroll, cost of living and enrichment for new and existing FTE.

B&F

- (-\$3,060,000) This decrease reflects the ramping down of the New Headquarters Project as we complete construction and consolidation into the Federal Triangle Complex.
- (+\$3,060,000) This increase will support energy conservation and other repair and improvement projects.

GOAL: EFFECTIVE MANAGEMENT

OBJECTIVE: PROVIDE QUALITY WORK ENVIRONMENT.

Annual Performance Goals and Measures

Energy Consumption Reduction

In 2004 By 2004, EPA will achieve a 16% energy consumption reduction from 1990 in its 21 laboratories which is in line to meet the 2005 requirement of a 20% reduction from the 1990 base. This includes Green Power purchases.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	16	Percent
Cumulative percentage reduction in energy consumption (from 1990).					

Baseline: In FY 2000, energy consumption of British Thermal Units (BTUs) per square foot is 320,000 BTUs per square foot.

Verification and Validation of Performance Measures

Performance Measure: Cumulative percentage reduction in energy consumption in EPA's 21 laboratories from the 1990 base.

Performance Database: No database. Agency staff track manually.

Data Source: Agency staff.

QA/QC Procedures: Agency staff/contractor review utility bills from laboratories.

Data Quality Review: Agency staff/contractor review utility bills.

Data Limitations: N/A

New/Improved Data or Systems: N/A

Coordination with Other Agencies

EPA will develop and issue guidance for executive agencies to use when purchasing goods and services in response to Executive Order 13101 to show a preference for "environmentally preferable" products and services.

Statutory Authority

Federal Manager's Financial Integrity Act (1982)

The Chief Financial Officers Act (1990)

The Prompt Payment Act (1982)

The Government Performance and Results Act (1993)

Government Management Reform Act (1994)

Inspector General Act of 1978 and Amendments of 1988

Title 5 United States Code

Annual Appropriations Act

EPA's Environmental Statutes, and the Federal Grant and Cooperative Agreement Act

Federal Acquisition Regulations (FAR), contract law, and EPA's Assistance Regulations
(40CFR Parts 30, 31, 35, 40, 45, 46, 47)

Clinger-Cohen Act

Paperwork Reduction Act

Freedom of Information Act

Computer Security Act

Privacy Act

Electronic Freedom of Information Act

Comprehensive Environmental Response, Compensation and Liability Act

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Effective Management

Objective: Provide Audit, Evaluation, and Investigative Products and Services

Provide audit, evaluation, and investigative products and advisory services resulting in improved environmental quality and human health.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Provide Audit, Evaluation, and Investigative Products and Services	\$52,802.2	\$53,592.7	\$56,793.0	\$3,200.3
Environmental Program & Management	\$6,587.0	\$4,290.0	\$5,233.2	\$943.2
Hazardous Substance Superfund	\$10,984.9	\$13,977.7	\$14,752.1	\$774.4
Inspector General	\$35,230.3	\$35,325.0	\$36,807.7	\$1,482.7
Total Workyears	359.7	372.3	371.9	-0.4

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Assistance Agreement Audits	\$2,000.0	\$0.0	\$0.0	\$0.0
Assistance Agreement Investigations	\$2,900.0	\$0.0	\$0.0	\$0.0
Contract Audits	\$5,200.0	\$0.0	\$0.0	\$0.0
Contract and Procurement Investigations	\$3,100.0	\$0.0	\$0.0	\$0.0
Employee Integrity Investigations	\$1,000.0	\$0.0	\$0.0	\$0.0

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Facilities Infrastructure and Operations	\$5,673.2	\$5,243.6	\$6,129.5	\$885.9
Financial Statement Audits	\$4,000.0	\$0.0	\$0.0	\$0.0
Investigations	\$0.0	\$9,469.6	\$10,527.2	\$1,057.6
Management Services and Stewardship	\$402.2	\$282.1	\$525.7	\$243.6
Planning and Resource Management	\$0.0	\$0.0	\$116.5	\$116.5
Planning, Analysis, and Results - IG	\$6,286.0	\$0.0	\$0.0	\$0.0
Program Audits	\$4,900.0	\$0.0	\$0.0	\$0.0
Program Evaluation - IG	\$15,000.0	\$0.0	\$0.0	\$0.0
Program Evaluations/Audit	\$0.0	\$38,597.4	\$39,494.1	\$896.7
Program Integrity Investigations	\$1,500.0	\$0.0	\$0.0	\$0.0

FY 2004 Request

The Office of Inspector General (OIG) provides audit, evaluation, investigative, and advisory services that fulfill the requirements of the IG Act and contribute to improved Agency management, environmental quality and human health. The work of the OIG supports the attainment of Agency Strategic Goals and assists the Agency in resolving its top management challenges. Audits and program evaluations, selected based on relative risk, materiality, and results of past reviews, identify best practices, areas for improvement, and cooperative solutions to problems. Investigations focus on alleged fraud, waste, abuse, and other illegal activities by EPA employees, contractors, and grantees. Investigations are also vital in identifying high-risk vulnerabilities, systemic weaknesses, improvements in programs and operations, savings, and economic benefits.

During FY 2004, the OIG will continue to: 1) *perform program evaluations* to provide Congress and the Agency with best practices, analyses, and recommendations to address the most serious management challenges, accomplish environmental objectives, and achieve Government Performance and Results Act (GPRA) goals; 2) *perform audits* of EPA's business systems processes and human capital to assess EPA's capacity to efficiently and effectively carry out its mission and prevent fraud, waste, and abuse; 3) *conduct investigations* which focus on detection and prosecution of financial fraud, laboratory fraud, and cyber crime; 4) *partner with others*, including other Federal and state auditors, evaluators, law enforcement officials and associations who also have environmental missions, to leverage our resources to attain maximum environmental benefits with available resources; and 5) *implement human resource and knowledge management strategies* that will ensure that the OIG has a diverse, highly motivated

and accountable staff with the skill sets and tools needed to perform increasingly complex work. More specifically, the OIG will concentrate during FY 2004 on the following areas:

- **Air** - The OIG's approach to assessing EPA's achievement of its clean air goal will center on evaluating major opportunities for cost-effective pollution reduction. The OIG will focus on the quality of emission data, the effectiveness of emission allowance trading, and the adequacy of air monitoring networks.
- **Water** - The OIG's work will center on the Agency's watershed approach with emphasis on national effluent guideline limitations and standards, water quality monitoring information, and assessing the effectiveness of point and non-point source programs. Further, the OIG will assess whether the Agency has comprehensive contingency plans ensuring continuity and protection of essential water functions across a wide range of potential emergencies.
- **Waste Management** - The OIG will concentrate on determining the extent of contaminated waste sites remaining to be cleaned up, identifying future sites, evaluating the environmental risks these sites pose, whether cleanup activities are scientifically sound, cost-effective, and the involvement and capabilities of states and tribes in cleanup activities. We will also develop information for evaluating the adequacy of the current Superfund Program. Further, we will evaluate progress and performance in the Brownfields cleanup program.
- **Scientific Research** - The OIG will continue to investigate potential criminal activity in laboratory work.
- **Computer Security** - In accordance with the Government Information Security Reform Act, the OIG will continue to evaluate major aspects of EPA's computer security program and practices. The OIG plans to: (1) monitor computer security weaknesses previously identified by our office and the General Accounting Office (GAO); (2) identify new and emerging vulnerabilities to network security; and (3) advise the Agency of any additional computer security enhancements needed to reduce the risk of damage and disruption to EPA's critical systems. The OIG will also continue performing criminal investigations of intrusive activities affecting EPA computer security and participate with other law enforcement agencies in the growing effort to protect computer security.
- **Systems** - The OIG will evaluate EPA's organizational systems and capacity to achieve citizen-centered, results-based management. Specifically, the OIG will evaluate the Agency's efforts to implement a systematic, customer-oriented, automated managerial cost accounting system that will provide program managers with relevant and reliable information relating costs to activities, outputs, and outcomes. We will also evaluate the Agency's progress in implementing strategies to improve its business processes, systems, data, and human capital. This will include assessing EPA's E-Government initiatives.

The OIG will continue to build capacity for performing program evaluations. The primary emphasis of those evaluations will be to determine whether EPA has designed the programs, projects, and tasks within the goals, objectives, and subobjectives reported to Congress under GPRA to achieve the desired results and impacts in the most efficient and cost-effective manner. Staffed with a mix of program analysts, scientists, auditors, economists, and others, program evaluations will assist the Agency in identifying what works, and, at what cost. Evaluation efforts in FY 2004 will include: 1) evaluating the effectiveness of EPA's national effluent guideline limitations and standards to determine whether they are appropriate for reducing industrial discharge of pollutants; 2) evaluating the cost and effectiveness of emission allowance trading in terms of environmental justice; examining the relationship of pollutants to environmental measures; assessing the adequacy of air monitoring networks, the validity and reliability of emission data, and the adequacy of EPA's human health and ecological impact measures; 3) assessing the effectiveness of the Brownfields program; 4) evaluating the adequacy of the current Superfund program; and 5) evaluating the impact of EPA activities on community relations. Planned program audits will focus increased attention on contract administration, including the effective use of performance based contracting to achieve environmental and business results. The OIG will also continue to focus on grants administration.

The OIG Computer Crimes Unit (CCU) will conduct investigations of computer intrusions, support the OIG and Agency personnel as a Penetration Testing laboratory, and provide a Forensics laboratory to assist with OIG investigations. The CCU will continue to be an active participant in the law enforcement computer crimes community, working collaboratively on joint projects. The Intrusion Unit of the CCU will develop guidelines for computer incident response and serve as a clearinghouse for all computer incident reports. The Intrusion Unit will also work collaboratively with the Agency to develop an Agency-wide training program for information security professionals regarding response to computer intrusion incidents. The Forensics Unit of the CCU will conduct forensic examinations in support of OIG investigations. As the Agency continues to move toward a paperless environment, the need for these examinations is expected to grow significantly.

The Ombudsman receives and reviews complaints and allegations of inappropriate decisions, actions, or activities involving Agency programs, employees, or designees. The Ombudsman screens and recommends work assignment suggestions for staffing within OIG offices, monitors those work assignments to include reviewing reports of findings and recommendations, and informs external stakeholders of the results. The Ombudsman also reports on fiscal year activity.

The OIG product line includes:

Audits

- *Contract Audits* - determine the allowability, allocability, and reasonableness of costs claimed by contractors.
- *Assistance Agreement Audits* - financial audits of EPA's State Revolving Fund programs, Performance Partnership Grants, as well as other EPA grants, interagency agreements, and cooperative agreements.

- *Financial Statement Audits* - audits of the Agency's financial systems and statements to ensure that adequate controls are in place and the Agency's accounting information is timely, accurate, reliable and useful, and complies with applicable laws and regulations.
- *Systems Audits* - review the economy, efficiency and effectiveness of operations by examining the Agency's support systems for achieving environmental goals, including its information systems and systems for setting priorities, developing and implementing strategies to accomplish them, and measuring performance. Key processes our work will focus on include those related to financial systems, information systems, and human capital.

Program Evaluations/Audits

- *Program Evaluations/Audits* use sophisticated analytical tools, methodologies and specialized skills to determine the extent to which the desired results and benefits envisioned by the Administration and Congress are being achieved.
- *Process evaluations* assess the extent to which a program is operating as it was intended.
- *Outcome evaluations* assess the extent to which a program achieves its outcome-oriented objectives.
- *Impact evaluations* assess net effect of a program by comparing outcomes with the absence of the program; and Cost.
- *Benefit evaluations* compare the program's outputs or outcomes with the costs to produce them.
- Our *program audit* work involves determining whether a myriad of EPA programs and processes are operating effectively and efficiently.

Investigations

OIG investigations focus on detection and prosecution of financial fraud, laboratory fraud, and cyber crime.

- *Program Integrity Investigations* focus on activities that could undermine the integrity of Agency programs, and erode public confidence in the Agency.
- *Assistance Agreement Investigations* focus on criminal activities related to Agency grants, State Revolving Funds, Interagency Agreements, and Cooperative Agreements.
- *Contract and Procurement Investigations* focus on acquisition management, contracts, and procurement practices.

- *Employee Integrity Investigations* involve allegations against EPA employees that could threaten the credibility of the Agency.
- Investigations of computer crime identify and counter illegal intrusions of EPA's computer systems. Through a specialized computer intrusion unit, the OIG will coordinate with the FBI's National Infrastructure Protection Center, and with the GAO's Federal Computer Intrusion Response Center. These investigations may be part of any of the above investigative categories.

The OIG's initiative to uncover criminal activity in laboratories involves investigating indicators of laboratory fraud within the environmental community to include commercial and EPA laboratories. The Agency relies upon laboratory test results to assess environmental threats and determine what actions are necessary to control hazardous wastes, toxins, and other contaminated substances that pollute our air, water, and land. These investigations generally are part of contract and procurement investigations or program integrity investigations.

Advisory and Assistance Services

Advisory and Assistance Services include a wide range of products and services designed to give Agency managers and congressional requesters information they need more expediently than audits or evaluations, and to assist EPA management in assessing and/or implementing control systems and processes.

Linking Our Work to Outcomes and Impacts

All of our work is planned based on the anticipated value toward influencing resolution of the Agency's major management challenges, reducing risk, improving practices and program operations, and saving taxpayer dollars while leading to the attainment of EPA's Strategic Goals. Our strategic plan aligns OIG products and services with current Agency goals and priorities based upon emerging issues, legislative initiatives, needs of various customers, clients and stakeholders and multiple dynamic external factors.

FY 2004 Change from FY 2003 Request

EPM

- (+\$728,700) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. (*Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE*)

IG

- (+\$1,113,700) This increase reflects an increase in workforce costs and Working Capital Fund expenses.
- (+\$369,000) This increase reflects an OIG initiative to assess state environmental stewardship to determine if states use high performance concepts to deliver environmental protection.
- (+\$340,600) This increase reflects an increase in workforce costs and Working Capital Fund expenses.
- (+\$131,000) This increase reflects an OIG initiative to assess state environmental stewardship to determine if states use high performance concepts to deliver environmental protection.

There are additional increases for payroll, cost of living and enrichment for new and existing FTE.

GOAL: EFFECTIVE MANAGEMENT

OBJECTIVE: PROVIDE AUDIT, EVALUATION, AND INVESTIGATIVE PRODUCTS AND SERVICES

Annual Performance Goals and Measures

Fraud Detection and Deterrence

In 2004 Improve Agency management and program operations by making 160 recommendations, identifying savings, recoveries, and fines, and reducing risks or loss or integrity through 50 criminal, civil, or administrative actions, 80 actions for better business practices and a 150 percent return on investment.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request		
Number of business recommendations, improved business practices, and judicial, administrative, or other actions.			290		Actions
Return on the annual dollar investment in the OIG			150		Percent

Baseline: In FY 2002, the OIG established a baseline of 270 business recommendations, improved business practices, and judicial, administrative or other actions for improving Agency management; and a 100% potential dollar return on the investment in the OIG from savings and recoveries.

Audit and Advisory Services

- In 2004 Improve environmental quality and human health by identifying 90 environmental recommendations, risks, and best practices; contributing to the reduction of 25 environmental risks, and 70 actions influencing positive environmental or health impacts.
- In 2003 Improve environmental quality and human health by identifying 80 environmental recommendations, risks, and best practices; contributing to the reduction of 20 environmental risks, and 60 actions influencing positive environmental or health impacts.
- In 2002 The OIG is promoting partnering relationships across governmental entities for collaborative goal setting planning performance measurement evaluation & resource sharing for greater economies of scale. For example, the OIG in collaboration w/PCIE produced an Environmental compendium, a web enabled.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of environmental risks reduced.			20	25 Risks
Number of environmental actions.	116	60	70	Improvements
Number of recommendations, risks, and best practices identified.	18	80	90	Recommendations

Baseline: In FY 2002, the OIG established a baseline of 75 recommendations, best practices and risks identified contributing to improved Agency environmental goals; and the reduction of 15 environmental risks.

Verification and Validation of Performance Measures

FY 2004 External Performance Measures:

Number of actions for environmental improvement, reductions in environmental risks, and recommendations for environmental improvement.

Number of actions for improvement in business practices, criminal/civil/administrative actions, potential dollar return, and recommendations for improved business practices.

Performance Database: The OIG Performance Results and Measurement System is used to capture and aggregate information on an array of measures in logic model format, linking immediate outputs with longer term intermediate outcomes and results. Because intermediate and long-term results may not be realized for several years, only verifiable results are reported in the year completed, while others remain prospective until completed and verified. Database measures include numbers of: 1) recommendations for environmental improvement; 2) legislative and regulatory changes; 3) policy, directive, or process changes; 4) environmental risks identified, reduced or eliminated; 5) best practices identified and transferred; and 6) examples of environmental improvement.

Data Source: Designated OIG staff are responsible for entering data into the system. Data are from OIG performance evaluations, audits, research and from EPA data systems and reports and track the extent of environmental improvements, risks reduced or avoided, and best practices transferred as well as certifications of actions taken by EPA officials. OIG also collects independent data from EPA's partners.

Methods, Assumptions and Suitability: OIG performance results are reported in a hierarchy: outputs, intermediate outcomes and better business practices and environmental impacts. All performance measures are categorized and accumulated by type of output, such as recommendations made, and by type of outcome in terms of action taken, such as new/improved procedures adopted or reduction of an operational or environmental risk. By using common categories of performance, absolute and cumulative totals can be summed and trends reported. The OIG can only recommend and influence changes, with no authority to make changes.

QA/QC Procedures: All performance data submitted to the database require at least one verifiable source assuring data accuracy and reliability. Data quality assurance and control are automatically performed as an extension of OIG products and services, subject to rigorous compliance with the Government Auditing Standards of the Comptroller General, and regularly

reviewed by OIG management, an independent OIG Management Assessment Review Team, and external independent peer reviews. The statutory mission of the OIG is to conduct independent audits, evaluations, and investigations to promote, among other things, integrity in Agency operations and reporting systems.

Data Quality Reviews: There have not been any previous audit findings or reports by external groups on data or database weaknesses in the OIG Performance Results and Accountability System.

Data Limitations: All OIG staff are responsible for data accuracy in their products and services. However, there is the possibility of incomplete, miscoded, or missing data in the system due to human error. Data supporting achievement of results are often from indirect or external sources, with their own methods or standards for data verification/validation.

Error Estimate: The error rate for outputs is estimated at +/-5%, while the error rate for reported outcomes is estimated to be at least +/-10%.

New/Improved Data or Systems: The OIG developed the Performance Results and Accountability System as a prototype in FY 2001 and anticipates enhancing it in FY 2003 with more sophisticated software designed to improve data collection, retention, and analysis. We expect the quality of the data to improve with greater familiarity with the new system and definition of measures. This system is a best practice in government for linking an array of measures from outputs to eventual results and impacts. With enhanced linkages to customer satisfaction results and resource investments, it will provide a full balanced scorecard with return on investment information for accountability and decision-making.

References: All OIG non-restricted performance results are referenced in the OIG Performance Results Database with supporting documentation available either through the OIG Web Site or other Agency databases. The OIG Web Site is www.epa.gov/oigearth.

Coordination with Other Agencies

The EPA Inspector General is a member of the President's Council on Integrity and Efficiency (PCIE), an organization comprised of Federal Inspectors General (IG). The PCIE coordinates and improves the way IGs conduct audits and investigations, and completes projects of government-wide interest. The EPA OIG is also a member of the Environmental Consortium. The Consortium, which seeks effective solutions to cross-cutting environmental issues, currently includes representatives from 19 executive agencies and GAO. The OIG Computer Crimes Unit coordinates activities with other law enforcement organizations with computer crimes units such as the Federal Bureau of Investigation, the Secret Service, and the Department of Justice. In addition, the OIG participates with various inter-governmental audit forums, professional associations, and other cross-governmental forums to exchange information, share best practices and directly collaborate efforts.

Statutory Authorities

Inspector General Act of 1978, as amended

Chief Financial Officers Act

Government Management Reform Act

Federal Financial Management Improvement Act

Comprehensive Environmental Response, Compensation and Liability Act

Government Information Security Reform Act

Reports Consolidation Act of 2000

Single Audit Act

Food Quality Protection Act

Annual Performance Goals

Environmental Protection Agency
2004 Annual Performance Plan and Congressional Justification
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**6-Year Performance Data
Annual Performance Goals and Measures**

GOAL: CLEAN AIR

The air in every American community will be safe and healthy to breathe. In particular, children, the elderly, and people with respiratory ailments will be protected from health risks of breathing polluted air. Reducing air pollution will also protect the environment, resulting in many benefits, such as restoring life in damaged ecosystems and reducing health risks to those whose subsistence depends directly on those ecosystems.

OBJECTIVE: ATTAIN NAAQS

Reduce the risk to human health and the environment by protecting and improving air quality so that air throughout the country meets national clean air standards by 2005 for carbon monoxide, sulfur dioxide, nitrogen dioxide, and lead; by 2012 for ozone; and by 2018 for particulate matter (PM). To accomplish this in Indian country, the tribes and EPA will, by 2005, have developed the infrastructure and skills to assess, understand, and control air quality and protect Native Americans and others from unacceptable risks to their health, environment, and cultural uses of natural resources.

Reduce Exposure to Unhealthy Ozone Levels - 1 Hour

- In 2004 The number of people living in areas with monitored ambient ozone concentrations below the NAAQS for the 1-hour ozone standard will increase by 1% (relative to 2003) for a cumulative total of 20% (relative to 1992).
- In 2003 Maintain healthy air quality for 42 million people living in monitored areas attaining the ozone standard; certify that 7 areas of the remaining 54 nonattainment areas have attained the 1-hour NAAQS for ozone thus increasing the number of people living in areas with healthy air by 5.1 million.
- In 2002 Maintained healthy air quality for 41.7 million people living in monitored areas attaining the ozone standard; and certified 1 area of the remaining 55 nonattainment areas attained the 1-hour NAAQS for ozone, thus increasing the number of people living in areas with healthy air by 326,000.
- In 2001 EPA maintained healthy air quality for 38.2 million people living in 43 areas attaining the ozone standard, increased by 3.5 million the number of people living in areas with healthy air quality that have newly attained the standard by certifying that 3 new areas have attained the 1-hour standard.
- In 2000 Maintained healthy air quality for 33.4 million people living in 43 areas attaining the ozone standard.
- In 1999 The Regions revoked the 1-hour standard in 10 areas. However, based upon the Circuit Court decision regarding the revised ozone standard, the Agency has proposed to reinstate the 1-hour standard.

Performance Measures	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	
	Actuals	Actuals	Actuals	Actuals	Pres. Bud.	Request	Percent
Cumulative Percent Increase in the Number of People who Live in Areas with Ambient 1-hour Ozone Concentrations Below the Level of the NAAQS as					19	20	

**6-Year Performance Data
Annual Performance Goals and Measures**

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Compared to 1992							
Cumulative Percent Increase in the Number of Areas with Ambient 1-hour Ozone Concentrations Below the Level of the NAAQS as Compared to 1992					31	33	Percent
Publish Notice Revoking 1-Hour Standard	10						Areas
National Guidance on Ozone SIP	1 Draft						Issued
States submit designations of areas for attainment of the ozone standard	50						States
Total Number of People who Live in Areas Designated to Attainment of the Clean Air Standards for Ozone		35,063,000	41,679,000	42,026,000	47,105,000	n/a	People
Areas Designated to Attainment for the Ozone Standard		1	3	1	7	0	Areas
Additional People Living in Newly Designated Areas with Demonstrated Attainment of the Ozone Standard		1,700,000	3,475,000	326,000	5,079,000	n/a	People
VOCs Reduced from Mobile Sources		1,562,000	1,659,000	1,755,000	1,852,000	2,040,000	Tons
NOx Reduced from Mobile Sources		1,059,000	1,189,000	1,319,000	1,449,000	1,653,000	Tons

Baseline: At the time that the Clean Air Act Amendments of 1990 were enacted (for the period 1990 - 1992), 52 areas with a population of 118 million people had ambient ozone concentrations that were greater than the level of the NAAQS. For the period 1999 - 2001, 16 of these areas (31%) with a population of 24 million people (19%) had ambient ozone concentrations were below the level of the NAAQS. In 1990, 101 areas were designated in nonattainment for the 1-hour ozone standard. Through 2002, 47 areas have been redesignated to attainment and 54 areas remain in nonattainment. The 1995 baseline for VOCs reduced from mobile sources is 8,134,000 tons and 11,998,000 tons for NOx, both ozone precursors. Notes: Areas means nonattainment areas for comparisons with the 1-hour NAAQS. Comparisons of ambient air quality concentrations with the level of the NAAQS are based on a time period and statistic consistent with the NAAQS. For ozone, this means a 3 year time frame. Population estimates based on 2000 census.

Reduce Exposure to Unhealthy PM Levels - PM-10

- In 2004 The number of people living in areas with monitored ambient PM concentrations below the NAAQS for the PM-10 standard will increase by 1% (relative to 2003) for a cumulative total of 11% (relative to 1992).
- In 2003 Maintain healthy air quality for 6.1 million people living in monitored areas attaining the PM standards; increase by 81 thousand the number of people living in areas with healthy air quality that have newly attained the standard.

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- In 2002 Maintained healthy air quality for 3.4 million people living in monitored areas attaining the PM standards; and increased by 2.7 million the number of people living in areas with healthy air quality that have newly attained the standard.
- In 2001 EPA maintained healthy air quality for 1.189 million people living in 9 areas attaining the PM standards and increased by 2.249 million the number of people living in areas with healthy air quality that have newly attained the standard.
- In 2000 Maintained healthy air quality for 1.2 million people living in 7 areas attaining the PM standards, and increased by 75.8 thousand the number of people living in areas with healthy air quality that have attained the standard.
- In 1999 EPA deployed PM-2.5 ambient monitors including: mass, continuous, speciation, and visibility sites resulting in a total of 1110 monitoring sites.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Cumulative Percent Increase in the Number of People who Live in Areas with Ambient PM-10 Concentrations Below the Level of the NAAQSas Compared to 1992					10	11	Percent
Cumulative Percent Increase in the Number of Areas with Ambient PM-10 Concentrations Below the Level of the NAAQSas Compared to 1992					45	46	Percent
National Guidance on PM-2.5 SIP and Attainment Demonstration Requirements	1 Draft						Issued
Cumulative total number of monitoring sites deployed	1110						Sites
Total Number of People who Live in Areas Designated in Attainment with Clean Air Standards for PM		1,275,800	3,438,000	6,086,500	6,212,000		People
Areas Designated to Attainment for the PM-10 Standard		2	8	4	8	8	Areas
Additional People Living in Newly Designated Areas with Demonstrated Attainment of the PM Standard		75,800	2,249,000	2,686,500	81,000		People
PM-10 Reduced from Mobile Sources		20,000	22,000	23,000	25,000	18,000	Tons
PM-2.5 Reduced from Mobile Sources		15,000	16,500	17,250	18,000	13,500	Tons

Baseline: At the time that the Clean Air Act Amendments of 1990 were enacted (for the period 1990-1992), 58 areas (nonattainment areas for comparisons with the PM-10 NAAQS.) with a population of 38 million people had ambient PM-10 concentrations that were greater than the level of the NAAQS. For the period 1999-2001, 26 of these areas (45%) with a population of 4 million (10%) had ambient PM-10 concentrations below the level of the NAAQS. (Population estimates based on 2000 census.) Comparisons of ambient air quality concentrations with the level of the NAAQS are based on a time period and statistic consistent with the NAAQS. For PM-10, this means a 3 year time frame. As a result of the Clean Air Act Amendments of 1990, 84

6-Year Performance Data Annual Performance Goals and Measures

areas were designated nonattainment for the PM-10 standard. Since that time, EPA has split Pocatella into 2 areas thereby revising the baseline to 85. Through 2002, 22 areas have been redesignated to attainment. The 1995 baseline for PM-10 reduced from mobile sources is 880,000 tons.

Reduce Exposure to Unhealthy CO, SO2, NO2, Lead

- In 2004 The number of people living in areas with monitored ambient CO, NO2, SO2, or Pb concentrations below the NAAQS will increase by less than 1% (relative to 2003) for a cumulative total of 63% (relative to 1992).
- In 2003 Maintain healthy air quality for 53 million people living in monitored areas attaining the CO, SO2, NO2, and Lead standards; increase by 1.1 million the number of people living in areas with healthy air quality that have newly attained the standard.
- In 2002 Maintained healthy air quality for 36.7 million people living in monitored areas attaining the CO, SO2, NO2, and Lead standards; and increased by 16.5 million, the number of people living in areas with healthy air quality that have newly attained the standard.
- In 2001 EPA maintained healthy air quality for 36.3 million people living in 56 areas attaining the CO, SO2, NO2, and Lead standards and increased by 418,000 the number of people living in areas with healthy air quality that have newly attained the standard.
- In 2000 Maintained healthy air quality for 27.7 million people living in 46 areas attaining the CO, SO2, NO2, and Lead standards, and increased by 3.41 million the number of people living in areas with healthy air quality that have attained the standard.
- In 1999 13 of the 58 estimated remaining nonattainment areas have achieved the NAAQS for carbon monoxide, sulfur dioxide, or lead.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Cumulative Percent Increase in the Number of People who Live in Areas with Ambient CO, SO2, NO2, or Pb Concentrations Below the Level of the NAAQS as Compared to 1992					63	63	Percent
Cumulative Percent Increase in the Number of Areas with Ambient CO, SO2, NO2, or Pb Concentrations Below the Level of the NAAQS as Compared to 1992					74	77	Percent
Total Number of People Living in Areas Designated in Attainment with Clean Air Standards for CO, SO2, NO2, and Pb		31,100,000	36,721,000	53,190,000	54,181,000	n/a	People
Areas Designated to Attainment for the CO, SO2, NO2, and Pb Standards	13	10	9	12	11	13	Areas
Additional People Living in Newly Designated Areas with Demonstrated Attainment of the CO, SO2, NO2, and		3,410,000	418,000	16,490,000	1,118,800	n/a	People

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Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Pb Standards							
CO Reduced from Mobile Sources		10,341,000	10,672,000	11,002,000	11,333,000	12,636,000	Tons
Total Number of People Living in Areas with Demonstrated Attainment of the NO2 Standard		13,000,000	14,944,000	14,944,000	14,944,000	n/a	People

Baseline: At the time the Clean Air Act Amendments of 1990 were enacted (for the period 1991-1992), 27 areas (counties comprising nonattainment areas for the comparisons with the NAAQS) with a population of 48 million people had ambient CO, SO2, NO2, or Pb concentrations (comparisons of ambient air quality concentrations with the level of the NAAQS are based on a time period and statistic consistent with each individual NAAQS) that were greater than the level of the NAAQS. For the period 2000-2001 (For some of the pollutants included in this measure, the number of years used to evaluate the ambient concentrations relative to the NAAQS may be less than the referenced time period: e.g. NO2 is evaluated over a single year.), 20 of these areas (74%) with a population of 30 million (63%) had ambient CO, SO2, NO2, or Pb concentrations less than the level of the NAAQS. (Population estimates based on 2000 census.) The projected improvement in 2004 is estimated for a single area. Therefore, the increase by definition must occur in a single year interval. In addition, the population living in this areas of improved air quality is small relative to that for the remaining areas. Therefore the projected improvement in population is greater than zero but less than 1. For CO, SO2, NO2, and Pb, 107 areas were classified as nonattainment or were unclassified in 1990. Through 2002, 76 of those areas have been redesignated to attainment. The 1995 baseline for mobile source emissions for CO was 70,947,000 tons.

Reduce Exposure to Unhealthy Ozone Levels - 8 Hour

In 2004 The number of people living in areas with monitored ambient ozone concentrations below the NAAQS for the 8-hour ozone standard will increase by 3% (relative to 2003) for a cumulative total of 3% (relative to 2001).

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Cumulative Percent Increase in the Number of People who Live in Areas with Ambient 8-hour Concentrations Below the Level of the NAAQS as Compared to 2001						3	Percent
Cumulative Percent Increase in the Number of Areas with Ambient 8-hour Ozone Concentrations Below the Level of the NAAQS as Compared to 2001						7	Percent

Baseline: For the period 1999-2001, 302 areas (counties) with a population of 115 million people had ambient 8-hour ozone concentrations above the level of the NAAQS. (Population estimates based on 2000 census.) Comparisons of ambient air quality concentrations with the level of the NAAQS are based on a time period and statistic consistent with the NAAQS. For ozone, this means a 3 year time frame.

Reduce Exposure to Unhealthy PM Levels - PM- 2.5

**6-Year Performance Data
Annual Performance Goals and Measures**

In 2004 The number of people living in areas with monitored ambient PM concentrations below the NAAQS for the PM-2.5 standard will increase by less than 1% (relative to 2003) for a cumulative total of less than 1% (relative to 2001).

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Cumulative Percent Increase in the Number of People who Live in Areas with Ambient PM-2.5 Concentrations Below the Level of the NAAQS as Compared to 2001						<1	Percent
Percent Increase in the Number of Areas with Ambient PM-2.5 Concentrations Below the Level of the NAAQS as Compared to 2001						1	Percent

Baseline: For the period 1999-2001, 132 areas (counties) with a population of 66 million people had ambient PM-2.5 concentrations that were greater than the level of the NAAQS. (Population estimates based on 2000 census.) Comparisons of ambient air quality concentrations with the level of the NAAQS are based on a time period and statistic consistent with the NAAQS. For PM-2.5, this means a 3-year time frame. The 1995 baseline for PM-2.5 reduced from mobile sources is 659,000 tons.

Increase Tribal Air Capacity

In 2004 Increase the number of tribes monitoring air quality for ozone and/or particulate matter from 42 to 45 and increase the percentage of tribes monitoring clean air for ozone from 64% to 67% and particulate matter from 71% to 72%.

In 2003 Increase the number of tribes monitoring air quality for ozone and/or particulate matter from 37 to 42 and increase the percentage of tribes monitoring clean air for ozone from 62% to 64% and particulate matter from 68% to 71%.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percent of Tribes with Tribal Lands Monitoring for Ozone and/or Particulate Matter					12	13	Percent
Percent of Monitoring Tribes Monitoring Clean Air for Ozone					64	67	Percent
Percent of Monitoring Tribes Monitoring Clean Air for Particulate Matter					71	72	Percent
Number of Tribes Implementing Air Programs					25	30	Tribes

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Baseline: There are 576 Federally recognized tribes with 347 tribes having tribal lands (Alaska Native Villages (tribes) number 229 entities, but only one 'reservation'). Through September 2002, there are 21 tribes implementing air programs; 37 tribes conducting monitoring for ozone and/or particulate matter; 8 tribes are currently monitoring clean air for ozone (of 13 total) and 25 tribes are currently monitoring clean air for particulate matter (of 37 total); and 15 tribes submitting quality assured data.

Research

PM Effects Research

- In 2004 Provide reports to OAR and the scientific community that examine the health effects of high levels of air pollutants, especially particulate matter, in potentially susceptible populations so that PM standards protect human health to the maximum extent possible.
- In 2002 EPA provided data on the health effects and exposure to particulate matter (PM) and provided methods for assessing the exposure and toxicity of PM in healthy and potentially susceptible subpopulations to strengthen the scientific basis for reassessment of the NAAQS for PM.
- In 2001 EPA provided new information on the atmospheric concentrations, human exposure, health effects and mechanisms of toxicity of particulate matter.
- In 2000 EPA provided new information on the atmospheric concentrations, human exposure, and health effects of particulate matter (PM), including PM2.5, and incorporated it and other peer-reviewed research findings in the second External Review Draft of the PM AQCD for NAAQS review.
- In 1999 Completed three reports on PM: (1) describing research designed to test a hypothesis about mechanisms of PM-induced toxicity; (2) characterizing factors affecting PM dosimetry in humans; and (3) identifying PM characteristics (e.g. composition) associated with biological responses.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Reports (1) describing research designed to test a hypothesis about mechanisms of PM-induced toxicity; 2) charct. factors affecting PM dosimetry in humans; 3) ID PM characteristics (composition)	3 Reports					
Hold CASAC review of draft PM Air Quality Criteria Document.		1				review
Complete longitudinal panel study data collection & preliminary report on exposure of susceptible subpopulations to total PM & co-occurring gases of ambient origin and i.d. key exposure parameters...		1				report
Data generated from PM monitoring studies in Phoenix, Fresno, and Baltimore will be used to reduce uncertainties		30-Sep-2000				data

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Annual Performance Goals and Measures**

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
on atmospheric PM concentrations in support of Draft PM Air Quality Criteria Document.						
Report on results from Baltimore study evaluating the cardio-vascular and immunological responses of elderly individuals to PM.		1				report
Complete PM longitudinal panel study data collection and report exposure data.				1		study
Report on health effects of concentrated ambient PM in healthy animals and humans, in asthmatic and elderly humans, and in animal models of asthma and respiratory infection.				1		report
Final PM Air Quality Criteria Document completed.				0		final AQCD
Report on the effects of concentrated ambient PM on humans and animals believed most susceptible to adverse effects (e.g., elderly, people with lung disease, or animal models of such diseases).					1	report
Report on animal and clinical toxicology studies using Utah Valley particulate matter (UVPM) to describe biological mechanisms that may underlie the reported epidemiological effects of UVPM.					1	report
Report on the chronic respiratory health effects in children of intra-urban gradients of particulate matter and co-pollutants in El Paso, TX .						1 report
Report on epidemiologic studies examining acute cardiac and respiratory effects in the elderly and children exposed to particulate matter (PM) and co-pollutants.						1 report

Baseline: There is currently considerable concern that increased levels of particulate matter (PM) may disproportionately affect certain susceptible groups, especially when exposures are long-term. One such group is children, particularly those with pre-existing asthma and related cardiopulmonary diseases. Children living in areas of high pollution such as on the U.S.-Mexico border are particularly at risk due to economic factors as well as exposure. The elderly with chronic lung disease comprise another susceptible group who may be more acutely affected. Which components of PM are responsible for health effects in either of these groups remains unclear, as does how exposure data from monitoring sites relates to their personal situations. As noted by the National Research Council, the issue of susceptibility and chronic health outcomes is of utmost importance. Completion of this APG in FY 2004

6-Year Performance Data Annual Performance Goals and Measures

will provide critical information to enhance risk estimates needed for promulgating the PM NAAQS and will provide information to the Office of Air so that it may focus its Air Quality Index on those who are at greatest risk.

OBJECTIVE: REDUCE AIR TOXICS RISK

By 2020, eliminate unacceptable risks of cancer and other significant health problems from air toxic emissions for at least 95 percent of the population, with particular attention to children and other sensitive subpopulations, and substantially reduce or eliminate adverse effects on our natural environment. By 2010, the tribes and EPA will have the information and tools to characterize and assess trends in air toxics in Indian country.

Reduce Air Toxic Emissions

- In 2004 Air toxics emissions nationwide from stationary and mobile sources combined will be reduced by an additional 2% of the updated 1993 baseline of 6.0 million tons for a cumulative reduction of 37%.
- In 2003 Air toxics emissions nationwide from stationary and mobile sources combined will be reduced by an additional 1% of the updated 1993 baseline of 6.0 million tons for a cumulative reduction 35%.
- In 2002 End-of-year FY 2002 data will be available in late 2004 to verify that air toxics emissions nationwide from stationary and mobile sources combined will be reduced by 1.5% from 2001 for a cumulative reduction of 33.5% from the 1993 baseline of 6.0 million tons per year.
- In 2001 End-of-year FY 2001 data will be available in late 2004 to verify that air toxics emissions nationwide from stationary and mobile sources combined will be reduced by 5% from 2000 (for a cumulative reduction of 35% from the 1993 level of 4.3 million tons.)
- In 2000 End-of-year FY 2000 data will be available in late 2004 to verify that air toxics emissions nationwide from stationary and mobile sources combined will be reduced by 3% from 1999 (for a cumulative reduction of 30% from the 1993 level of 4.3 million tons.)
- In 1999 End of year 1999 data will be available in 2003 to verify that air toxics emissions nationwide from stationary and mobile sources combined were reduced by 12% from 1998 (for a cumulative reduction of 27% from the 1993 level of 4.3 million tons.)

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Combined Stationary and Mobile Source Reductions in Air Toxics Emissions	Data Lag	Data Lag	Data Lag	Data Lag	1	2	Percent
Mobile Source Air Toxics Emissions Reduced					.68	.71	Million Tons
Stationary Source Air Toxics Emissions Reduced					1.57	1.59	Million Tons
Major Sources, Area and All Other Air Toxics Emissions					+.12	+.13	Million Tons

**6-Year Performance Data
Annual Performance Goals and Measures**

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Reduced						

Baseline: In 1993, the last year before the MACT standards and mobile source regulations developed under the Clean Air Act began to be implemented, stationary and mobile sources are now estimated to have emitted 6.0 million tons of air toxics. (EPA's prior estimate was 4.3 million tons and was updated with improved inventory data.) Air toxics emission data are revised every three years to generate inventories for the National Toxics Inventory (NTI). In the intervening years between the update of the NTI, the model EMS-HAP (Emissions Modeling System for Hazardous Air Pollutants) is used to estimate and project annual emissions of air toxics. EMS-HAP projects emissions, by adjusting point, area and mobile emission data to account for growth and emission reductions resulting from emission reduction scenarios such as the implementation of the Maximum Achievable Control Technology (MACT) standards. The FY 2003 target does not have growth factored in. With growth, the target for 2003 is a 1% reduction from 2002 levels for a cumulative reduction of 35%.

OBJECTIVE: REDUCE ACID RAIN.

By 2005, reduce ambient nitrates and total nitrogen deposition to 1990 levels. By 2010, reduce ambient sulfates and total sulfur deposition by up to 30 percent from 1990 levels.

Reduce SO2 Emissions

- In 2004 Maintain or increase annual SO2 emission reduction of approximately 5 million tons from the 1980 baseline. Keep annual emissions below level authorized by allowance holdings and make progress towards achievement of Year 2010 SO2 emissions cap for utilities.
- In 2003 Maintain or increase annual SO2 emission reduction of approximately 5 million tons from the 1980 baseline. Keep annual emissions below level authorized by allowance holdings and make progress towards achievement of Year 2010 SO2 emissions cap for utilities.
- In 2002 On track to ensure that EPA maintains or increases annual SO2 emission reduction of approximately 5 million tons from the 1980 baseline. Keep annual emissions below level authorized by allowance holdings and make progress towards achievement of Year 2010 SO2 emissions cap for utilities.
- In 2001 Approximately 5 million tons of SO2 emissions from utility sources were reduced from the 1980 baseline.
- In 2000 6.3 million tons of SO2 emissions from utility sources were reduced from 1980 baseline.
- In 1999 5.04 million tons of SO2 emissions from utility sources were reduced from 1980 baseline and 420,000 tons of NOx from coal-fired utility sources were reduced from levels that would have been emitted without implementation of Title IV of the Clean Air Act Amendments.

**6-Year Performance Data
Annual Performance Goals and Measures**

Performance Measures	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	
	Actuals	Actuals	Actuals	Actuals	Pres. Bud.	Request	
SO2 Emissions	30-Oct-2000	6,300,000	6,670,000	Data Lag	5,000,000	5,000,000	Tons Reduced
NOx Reductions	420,000						Tons Reduced

Baseline: The base of comparison for assessing progress on the annual performance goal is the 1980 emissions baseline. The 1980 SO2 emissions inventory totals 17.5 million tons for electric utility sources. This inventory was developed by National Acid Precipitation Assessment Program (NAPAP) and used as the basis for reductions in Title IV of the Clean Air Act Amendments. This data is also contained in EPA's National Air Pollutant Emissions Trends Report. Statutory SO2 emissions cap for year 2010 and later is at 8.95 million tons which is approximately 8.5 million tons below 1980 emissions level. "Allowable SO2 emission level" consists of allowance allocations granted to sources each year under several provisions of the Act and additional allowances carried over, or banked, from previous years.

Reduce NOx Emissions

- In 2004 2 million tons of NOx from coal-fired utility sources will be reduced from levels that would have been emitted without implementation of Title IV of the Clean Air Act Amendments.
- In 2003 2 million tons of NOx from coal-fired utility sources will be reduced from levels that would have been emitted without implementation of Title IV of the Clean Air Act Amendments.
- In 2002 On track to ensure that 2 million tons of NOx from coal-fired utility sources are reduced from levels that would have been emitted without implementation of Title IV of the Clean Air Act Amendments.
- In 2001 2 million tons of NOx from coal-fired utility sources were reduced from levels that would have been emitted without implementation of Title IV of the Clean Air Act Amendments.
- In 2000 2 million tons of NOx from coal-fired utility sources were reduced from levels before implementation of Title IV of the Clean Air Act Amendments.

Performance Measures	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	
	Actuals	Actuals	Actuals	Actuals	Pres. Bud.	Request	
NOx Reductions		2,000,000	2,000,000	Data Lag	2,000,000	2,000,000	Tons Reduced

Baseline: Performance Baseline: The base of comparison for assessing progress on this annual performance goal is emissions that would have occurred in the absence of Title IV of the Clean Air Act Amendments. These emissions levels are calculated using actual annual heat input and the baseline (uncontrolled) NOx emission rates by boiler type from the preamble to the final rule (61 FR 67112, December 19, 1996).

**6-Year Performance Data
Annual Performance Goals and Measures**

GOAL: CLEAN AND SAFE WATER

All Americans will have drinking water that is clean and safe to drink. Effective protection of America's rivers, lakes, wetlands, aquifers, and coastal and ocean waters will sustain fish, plants, and wildlife, as well as recreational, subsistence, and economic activities. Watersheds and their aquatic ecosystems will be restored and protected to improve human health, enhance water quality, reduce flooding, and provide habitat for wildlife.

OBJECTIVE: SAFE DRINKING WATER, FISH AND RECREATIONAL WATERS

By 2005, protect public health so that 95% of the population served by community water systems will receive water that meets drinking water standards, consumption of contaminated fish and shellfish will be reduced, and exposure to microbial and other forms of contamination in waters used for recreation will be reduced.

Safe Drinking Water

- | | |
|---------|--|
| In 2004 | 85 percent of the population served by community water systems will receive drinking water meeting health-based standards promulgated in or after 1998. |
| In 2004 | 92% of the population served by community water systems will receive drinking water meeting all health-based standards in effect as of 1994, up from 83% in 1994. |
| In 2003 | 85 percent of the population served by community water systems will receive drinking water meeting health-based standards promulgated in or after 1998. |
| In 2003 | 92% of the population served by community water systems will receive drinking water meeting all health-based standards in effect as of 1994, up from 83% in 1994. |
| In 2002 | 91% of the population served by community water systems received drinking water meeting all health-based standards in effect as of 1994. |
| In 2002 | Final FY 02 numbers will not be available until mid-January. SDWIS reports quarter behind. |
| In 2001 | 91 percent of the population served by water systems received drinking water meeting all health-based standards that were in effect as of 1994. |
| In 2000 | 91% of the population served by community drinking water systems received drinking water meeting all health-based standards that were in effect as of 1994, up from 83% in 1994. |
| In 1999 | 91% of the population served by community water systems received drinking water meeting all health-based standards in effect as of 1994, up from 83% in 1994. |

**6-Year Performance Data
Annual Performance Goals and Measures**

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percent of population served by community drinking water systems with no violations during the year of any Federally enforceable health-based standards that were in place by 1994.		91	91	91	92	92	% Population
Population served by community water systems providing drinking water meeting health-based standards promulgated in or after 1998.				N/A	85	85	% Population

Baseline: In 1998, 85% of the population that was served by community water systems and 96% of the population served by non-community, non-transient drinking water systems received drinking water for which no violations of Federally enforceable health standards had occurred during the year.

Drinking Water Systems Operations

In 2004 Enhance homeland security by securing the nation's critical drinking water infrastructure.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request		
Percent of population and number of CWSs-serving more than 50,000 but less than 100,000 people-have certified the completion of their vulnerability assessment and submitted a copy to EPA.						100/~460	% CWSs	pop/#
Percent of population and number of CWSs-serving more than 50,000 but less than 100,000 people-have certified the completion of the preparation or revision of their emergency response plan.						100/~460	% CWSs	pop/#
Percent of population and number of CWSs-serving more than 3,300 but less than 50,000 people-have certified the completion of their vulnerability assessment and submitted a copy to EPA.						100/~7,475	% CWSs	pop/#

Baseline: These measures covering medium-sized community water systems will be reported for the first time in FY 2004, which will establish the baselines.

River/Lake Assessments for Fish Consumption

In 2004 Reduce consumption of contaminated fish by increasing the information available to States, Tribes, local governments, citizens, and decision-makers.

6-Year Performance Data Annual Performance Goals and Measures

- In 2003 Reduce consumption of contaminated fish by increasing the information available to States, Tribes, local governments, citizens, and decision-makers.
- In 2002 14% of the nation's river miles and 28% of nation's lake acres have been assessed to determine if they contain fish and shellfish that should not be eaten or should be eaten in only limited quantities.
- In 2001 9% of the nation's river miles and 23% of nation's lake acres have been assessed to determine if they contain fish and shellfish that should not be eaten or should be eaten in only limited quantities.
- In 2000 7% of the nation's river miles and 16% of the nation's lake acres have been assessed to determine if they contain fish and shellfish that should not be eaten or should be eaten in only limited quantities.
- In 1999 7% of river miles and 15% of lake acres were assessed for the need for fish advisories.

Performance Measures	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	
	Actuals	Actuals	Actuals	Actuals	Pres. Bud.	Request	
Lake acres assessed for the need for fish advisories and compilation of state-issued fish consumption advisory methodologies. (cumulative)		16	23	28	29	32	% lake acres
River miles assessed for the need for fish consumption advisories & compilation of state-issued fish consumption advisory methodologies. (cumulative)	7	7	9	14 %	15%	16%	River miles

Baseline: In 1999, 7% of the Nation's rivers and 15% of the Nation's lakes were assessed to determine if they contained fish that should not be eaten or should be eaten in only limited quantities. In September 1999, 25 states/tribes are monitoring and conducting assessments based on the national guidance to establish nationally consistent fish advisories. In the 2000 Report to Congress on the National Water Quality Inventory, 69% of assessed river and stream miles; 63% of assessed lake, reservoir, and pond acres; and 53% of assessed estuarie square miles supported their designated use for fish consumption. For shell fish consumption, 77% of assessed estuary square miles met this designated use.

Increase Information on Beaches

- In 2004 Reduce human exposure to contaminated recreation waters by increasing the information available to the public and decision-makers.
- In 2003 Reduce human exposure to contaminated recreation waters by increasing the information available to the public and decision-makers.
- In 2002 Reduced exposure to contaminated recreation waters by providing monitoring and closure data on 2,455 beaches to the public and decision-makers.
- In 2001 Reduce exposure to contaminated recreation waters by providing information on 2,354 beaches for which monitoring and closure data is available to the public and decision-makers.

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In 2000 1,981 beaches had monitoring and closure data including 150 digitized maps, available to the public through EPA's website.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	Beaches
Beaches for which monitoring and closure data is available to the public at http://www.epa.gov/waterscience/beaches/ . (cumulative)	1,981	2,354	2,445	2,550	2,650		

Baseline: By the end of FY1999, 33 states had responded to EPA's first annual survey on state and local beach monitoring and closure practices, and EPA made available to the public via the Internet information on conditions at 1,403 specific beaches. In the 2000 Report to Congress on the National Water Quality Inventory, 72% of assessed river and stream miles; 77% of assessed lake, reservoir, and pond acres; and 85% of assessed estuarine square miles met their designated uses for recreation (primary contact).

Source Water Protection

In 2004 Advance States' efforts with community water systems to protect their surface and ground water resources that are sources of drinking water supplies.

In 2003 39,000 community water systems (representing 75% of the nation's service population) will have completed source water assessments and 2,600 of these (representing 10% of the nation's service population) will be implementing source water protection programs.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	% pop/systems
Number of community water systems and percent of population served by those CWSs that are implementing source water protection programs.					10%/2,600	25% 7,500	

Baseline: EPA has defined implementation as undertaking 4 or more of 5 stages of source water protection. About 268 million people are estimated to be served by CWSs in 2002.

Research

Drinking Water Research

In 2004 Provide final reports on the performance of arsenic treatment technologies and/or engineering approaches to the Office of Water and water supply utilities to aid in the implementation of the arsenic rule and the protection of human health.

In 2002 EPA produced scientific reports to support the development of the next Contaminant Candidate List of chemicals and pathogens for potential regulatory action and research. These reports will help ensure that future regulations address the contaminants of greatest public health concern.

**6-Year Performance Data
Annual Performance Goals and Measures**

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Provide method(s) for CCL related pathogens in drinking water for use in the Unregulated Contaminant Monitoring Rule.				1			journal article
Final reports of full-scale demonstrations of arsenic treatment technologies.						09/30/04	reports

Baseline: On October 31, 2001 EPA announced that the final standard for arsenic in drinking water of ten parts per billion (10 ppb) would become effective on February 22, 2002. Nearly 97 percent of the water systems affected by this rule are small systems that serve less than 10,000 people each. These small systems have limited resources and need more cost-effective technologies to meet the new standard. A total of \$20 million has been allocated or planned in FY02 and FY03 for research and development of more cost-effective technologies, as well as technical assistance and training to operators of small systems to reduce their compliance costs. In FY 2004 EPA will provide final reports of full-scale demonstrations of arsenic treatment technologies to aid in the implementation of the arsenic rule and the protection of human health.

Homeland Security - Water Security Research

In 2004 Verify two point-of-use drinking water technologies that treat intentionally introduced contaminants in drinking water supplies for application by commercial and residential users, water supply utilities, and public officials.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Verify two treatment technologies for application in buildings by commercial and residential users, utilities, and public officials to treat contaminants in drinking water supplies.						2	verifications

Baseline: These technology verifications are being conducted in support of EPA's Draft Strategic Plan for Homeland Security and are focused on the water security tactic in the strategy. Evaluations of point-of-use drinking water treatment technologies have been ongoing for years and technologies are commercially available to remove disagreeable tastes and odors, and capture or neutralize contaminants. These point-of-use treatment technologies are now being considered as an additional means of treating water that may have been exposed to biological or chemical contaminants through terrorist attacks. What makes this undertaking unique is that the Environmental Technology Verification (ETV) program will formally verify such technologies using a standard protocol developed by a group of stakeholders, who are considered experts on such verifications. This additional line of defense can help reassure home and building owners and users, water supply utilities, and public officials that the drinking water supply in a residential or commercial building can be treated one more times once it enters the water distribution system of a building.

**6-Year Performance Data
Annual Performance Goals and Measures**

OBJECTIVE: PROTECT WATERSHEDS AND AQUATIC COMMUNITIES

By 2005, increase by 175 the number of watersheds where 80 percent or more of assessed waters meet water quality standards, including standards that support healthy aquatic communities. (The 1998 baseline is 501 watersheds out of a national total of 2,262.)

Watershed Protection

- In 2004 By FY 2005, Water quality will improve on a watershed basis such that 625 of the Nation's 2,262 watersheds will have greater than 80 percent of assessed waters meeting all water quality standards, up from 500 watersheds in 1998.
- In 2003 By FY 2003, Water quality will improve on a watershed basis such that 600 of the Nation's 2,262 watersheds will have greater than 80 percent of assessed waters meeting all water quality standards, up from 500 watersheds in 1998.
- In 2002 This measure reflects states' biennial reporting under CWA 305(b), and is not intended to be reported against again until the FY2003 reporting cycle.
- In 2001 Water quality improved on a watershed basis such that 510 of the Nation's 2,262 watersheds will have greater than 80 percent of assessed waters meeting all water quality standards, up from 500 watersheds in 1998.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
Watersheds that have greater than 80% of assessed waters meeting all water quality standards.			510	510 (FY00)	600	625 (FY 8-digit HUCs 05)

Baseline: As of 1998 state reports, 500 watersheds had met the criteria for water quality improving on a watershed basis. For a watershed to be counted toward this goal, at least 25% of the segments in the watershed must be assessed within the past 4 years consistent with assessment guidelines developed pursuant to section 305(b) of the Clean Water Act. The unit of measure is 8-digit Hydrologic Unit Codes (HUCs).

State/Tribal Water Quality Standards

- In 2004 Assure that States and Tribes have effective, up-to-date water quality standards programs adopted in accordance with the Water Quality Standards regulation and the Water Quality Standards program priorities.
- In 2003 Assure that States and Tribes have effective, up-to-date water quality standards programs adopted in accordance with the Water Quality Standards regulation and the Water Quality Standards program priorities.
- In 2002 Assure that 25 States and 22 Tribes have effective, up-to-date water quality standards programs adopted in accordance with the Water Quality Standards regulation and the Water Quality Standards program priorities.

6-Year Performance Data Annual Performance Goals and Measures

- In 2001 21 States and 19 Tribes have effective, up-to-date water quality standards programs adopted in accordance with the Water Quality Standards regulation and the Water Quality Standards program priorities.
- In 2000 35 States and 16 Tribes have effective, up-to-date water quality standards programs adopted in accordance with the Water Quality Standards regulation and the Water Quality Standards program priorities.
- In 1999 EPA reviewed and approved 17 revised water quality standards for 17 states that reflect current guidance, regulation, and public input and promulgated replacement Federal standards for 1 additional state.
- In 1999 One additional Tribe established an effective water quality standards program for a cumulative total of 15 Tribes with effective water quality standards programs. In addition, 7 more tribal submissions are currently under review.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
States with new or revised water quality standards that EPA has reviewed and approved or disapproved and promulgated federal replacement standards.			21	25	20	20	States
States with new or revised water quality standards that EPA has reviewed and approved or disapproved.	17						States
Tribes with water quality standards adopted and approved (cumulative).	15	16	19	22	30	33	Tribes

Baseline: In 1999, fewer than 5% of tribes had water quality monitoring and assessment programs appropriate for their circumstances and were entering water quality data into EPA's national data systems. State water quality standards program reviews are under a 3-year cycle as mandated by the Clean Water Act under which all states maintain updated water quality programs. The performance measure of state submissions (above) thus represents a "rolling annual total" of updated standards acted upon by EPA, and so are neither cumulative nor strictly incremental. EPA must review and approve or disapprove state revisions to water quality standards within 60-90 days after receiving the state's package. As of this May EPA was overdue in approving or disapproving 38 new or revised standards from 21 states and tribes.

Protecting and Enhancing Estuaries

- In 2004 Restore and protect estuaries through the implementation of Comprehensive Conservation and Management Plans (CCMPs).
- In 2003 Restore and protect estuaries through the implementation of Comprehensive Conservation and Management Plans (CCMPs).
- In 2002 Restored and protected over 137,000 acres of estuary habitat through the implementation of Comprehensive Conservation and Management Plans (CCMPs).
- In 2001 Restored and protected 70,000 acres of estuaries through the implementation of Comprehensive Conservation and Management Plans (CCMPs).

**6-Year Performance Data
Annual Performance Goals and Measures**

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Acres of habitat restored and protected nationwide as part of the National Estuary Program. (annual)			70,000	137,710	86,000	25,000	Acres

Baseline: As of January 2000, it is estimated that 65% of priority actions initiated and 400,000 habitat acres preserved, restored, and/or created.

Gulf of Mexico

- In 2004 Assist the Gulf States in implementing watershed restoration actions in 14 priority impaired coastal river and estuary segments.
- In 2003 Assist the Gulf States in implementing watershed restoration actions in 14 priority impaired coastal river and estuary segments.
- In 2002 Assisted the Gulf States in implementing restoration actions by supporting the identification of place-based projects in 137 State priority coastal river and estuary segments.
- In 2001 Assisted the Gulf States in implementing watershed restoration action strategies (WRAS) or their equivalent in 37 priority coastal river and estuary segments.
- In 2000 Assisted the Gulf states in implementing watershed restoration action strategies (WRAS) or similar plans to restore waterbodies in 14 priority impaired coastal river and estuary segments.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Impaired Gulf coastal river and estuary segments implementing watershed restoration actions (incremental).		31	37	137	14	14	Segments

Baseline: There are currently 95 coastal watersheds at the 8-digit hydrologic unit code (HUC) scale on the Gulf coast. The Gulf of Mexico Program has identified 12 priority coastal areas for assistance. These 12 areas include 30 of the 95 coastal watersheds. Within the 30 priority watersheds, the Gulf States have identified 354 segments that are impaired and not meeting full designated uses under the States' water quality standards. 71 or 20% is the target proposed to reinforce Gulf State efforts to implement 5-year basin rotation schedules. The target of 71 is divided by 5 to achieve the goal for assistance provided in at least 14 impaired segments each year for the next 5 years.

Chesapeake Bay Habitat

- In 2004 Improve habitat in the Chesapeake Bay.
- In 2003 Improve habitat in the Chesapeake Bay.

**6-Year Performance Data
Annual Performance Goals and Measures**

- In 2002 Meeting the annual performance goal to improve habitat in the Bay requires adherence to commitments made by the Chesapeake 2000 agreement partners and monumental effort/resources from all levels of government (local, state, and a range of Federal agencies) and from private organizations/citizens.
- In 2001 Improved habitat in the Chesapeake Bay by reducing 48.1 million pounds of nitrogen, 6.84 million pounds of phosphorous and restored over 69,000 acres of submerged aquatic vegetation.
- In 2000 In the Chesapeake Bay watershed, 1,032 stream miles of migratory fish habitat was reopened through the provision of fish passages, construction and restoration of 11,000 acres of oyster habitat, and 41% of wastewater flow to the Bay was treated by Biological Nutrient Removal.
- In 1999 Submerged aquatic vegetation acres increased to 63,500; 11,000 acres designated for aquatic reef habitat; 32% of wastewater flow treated by Biological Nutrient Removal; 79% of lands have voluntary integrated pest management practices; and 534 stream miles of migratory fish habitat have reopened.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	Acres
Acres of submerged aquatic vegetation (SAV) present in the Chesapeake Bay. (cumulative)	63500	68,125	69,126	85,252	86,000	87,000	

Baseline: In 1985, 0% of wastewater flow had been treated by Biological Nutrient Removal. In 1989, 49 miles of migratory fish habitat was reopened. In 1984, there were 37,000 acres of submerged aquatic vegetation in the Chesapeake Bay. In 1988, voluntary IPM practices had been established on 2% of the lands in the Chesapeake Bay watershed.

OBJECTIVE: REDUCE LOADINGS AND AIR DEPOSITION

By 2005, reduce pollutant loadings from key point and nonpoint sources by at least 11 percent from 1992 levels. Air deposition of key pollutants will be reduced to 1990 levels.

NPDES Permit Requirements

- In 2004 Current NPDES permits reduce or eliminate loadings into the nation's waters of (1) inadequately treated discharges from municipal and industrial facilities (direct and indirect dischargers); and (2) pollutants from urban storm water, CSOs, and CAFOs.
- In 2003 Current NPDES permits reduce or eliminate loadings into the nation's waters of (1) inadequately treated discharges from municipal and industrial facilities (direct and indirect dischargers); and (2) pollutants from urban storm water, CSOs, and CAFOs.
- In 2002 Current NPDES permits reduced or eliminated discharges into the nation's waters of (1) inadequately treated discharges from municipal and industrial facilities; and (2) pollutants from urban storm water, CSOs, and CAFOs.

**6-Year Performance Data
Annual Performance Goals and Measures**

In 2001 Maintaining current NPDES permits aid in the reduction or elimination of discharges into the nation's waters of inadequately treated discharges from municipal and industrial facilities; and pollutants from urban storm water, CSOs, and CAFOs.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Major point sources are covered by current permits.			75	83%	90%	90%	Point Sources
Minor point sources are covered by current permits.			75	74%	84%	87%	Point Sources
Loading reductions (pounds per year) of toxic, non-conventional, and conventional pollutants from NPDES permitted facilities (POTWs, Industries, SIUs, CAFOs, SW, CSOs).					2,500 million	2,750 million	pounds

Baseline: As of May 1999, 72% of major point sources and 54% of minor point sources were covered by a current NPDES permit. At the end of FY99, 53 of 57 states/territories had current storm water permits for all industrial activities, and 50 of 57 had current permits for construction sites over 5 acres. In June 1999, 74% of approximately 900 CSO communities were covered by permits or other enforceable mechanisms consistent with the 1994 CSO Policy. As of December 1999, approximately 14 states had current NPDES general permits for CAFOs and at least another 13 had issued one or more individual NPDES permits for CAFOs.

Clean Water State Revolving Fund: Annual Assistance

In 2004 900 projects funded by the Clean Water SRF will initiate operations, including 629 projects providing secondary treatment, advanced treatment, CSO correction (treatment), and/or storm water treatment. Cumulatively, 10,440 projects will have initiated operations since program inception.

In 2003 900 projects funded by the Clean Water SRF will initiate operations, including 515 projects providing secondary treatment, advanced treatment, CSO correction (treatment), and/or storm water treatment. Cumulatively, 9,540 projects will have initiated operations since program inception.

In 2002 1,100 projects funded by the Clean Water SRF initiated operations, including 400 projects providing secondary treatment, advanced treatment, CSO correction (treatment), and/or storm water treatment. Cumulatively, 8,642 projects have initiated operations since program inception.

In 2001 933 projects funded by the Clean Water SRF initiated operations, including 400 projects providing secondary treatment, advanced treatment, CSO correction (treatment), and/or storm water treatment. Cumulatively, 7,452 SRF funded projects will have initiated operations since program inception.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
CW SRF projects that have initiated operations. (cumulative)			7,452	8,642	9,540	10,440	SRF projects

6-Year Performance Data Annual Performance Goals and Measures

Baseline: The Agency's National Information Management System (NIMS) shows, as of July 1998, 39 states/territories were conducting separate annual audits of their SRFs and utilizing fund management principles. NIMS shows, as of June 1998, 25 states were meeting the "pace of the program" measures for loan issuance, pace of construction, and use of repayments. As of September 1998, 8 states were using integrated planning and priority systems to make SFR funding decisions. NIMS shows 3,909 SRF projects initiated as of June 1998.

Wastewater Treatment Facility Compliance

In 2004 Enhance public health and environmental protection by securing the nation's critical wastewater infrastructure through support for homeland security preparedness, including vulnerability assessments, emergency operations planning, and system operator training.

In 2003 Enhance public health and environmental protection by securing the nation's critical wastewater infrastructure through support for homeland security preparedness, including vulnerability assessments, emergency operations planning, and system operator training.

Performance Measures	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	
	Actuals	Actuals	Actuals	Actuals	Pres. Bud.	Request	
Percent of the population served by, and the number of, large and medium-sized (10,001 and larger) Publicly Owned Treatment Works (POTWs) that have taken action for homeland security preparedness.					65%/5000	75%/8000	%pop/systems

Baseline: Baseline will be established in FY 2003.

Research

Wet Weather Flow Research

In 2004 Provide to states, regions and watershed managers indicators, monitoring strategies, and guidance for determining the effectiveness of Best Management Practices (BMPs) for wet weather flows in meeting water quality goals.

Performance Measures	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	
	Actuals	Actuals	Actuals	Actuals	Pres. Bud.	Request	
Report on fecal indicator monitoring protocols for different types of recreational water.						1	report
Provide guidance on indicator selection and monitoring strategies for evaluating the effectiveness of BMPs.						9/30/04	guidance

6-Year Performance Data

Annual Performance Goals and Measures

Baseline:

The costs and complexities of meeting water quality goals subject to urban stormwater permits are daunting. The role of Best Management Practices (BMP's) as both an effective and economical means to meet permit requirements remains the central regulatory and non-regulatory approach for restoring much of the Nation's degraded water quality in urban environments. The scientific literature and reviews of current design and monitoring practices show that the effectiveness of BMPs is highly variable, is often defined and reported differently, and that monitoring rarely documents biological water quality improvements. Efforts are needed to better monitor and characterize the performance of BMPs by detailed analysis of the physical, chemical and biological processes common to many diverse BMPs. Based on on-going research in this area, in FY 2004, EPA will provide comprehensive guidance for application of stormwater BMPs in highly variable urban watersheds across the U.S. This guidance will provide states, regions and watershed managers a means for determining the effectiveness of BMPs in meeting water quality goals.

**6-Year Performance Data
Annual Performance Goals and Measures**

GOAL: SAFE FOOD

The foods Americans eat will be free from unsafe pesticide residues. Particular attention will be given to protecting subpopulations that may be more susceptible to adverse effects of pesticides or have higher dietary exposures to pesticide residues. These include children and people whose diets include large amounts of noncommercial foods.

OBJECTIVE: REDUCE RISKS FROM PESTICIDE RESIDUES IN FOOD

By 2006, reduce public health risk from pesticide residues in food from pre-Food Quality Protection Act (FQPA) levels (pre-1996).

Decrease Risk from Agricultural Pesticides

- In 2004 Decrease adverse risk from agricultural uses from 1995 levels.
- In 2004 Decrease risk from agricultural uses from 1995 levels.
- In 2003 Decrease adverse risk from agricultural uses from 1995 levels and assure that new pesticides that enter the market are safe for humans and the environment, through ensuring that all registration action are timely and comply with standards mandated by law.
- In 2002 In FY 2002, EPA continued to register pest control products, including "safer" pesticides, thus ensuring that growers have an adequate number of pest control options available to them.
- In 2001 The Agency registered 9 new chemicals, exceeding its target by 2, and 267 new chemicals, underperforming its target by 83.
- In 2001 The registration of new agricultural pesticides, and reregistration of older agricultural pesticides, were done under the strict health-based standard of FQPA: "reasonable certainty of no harm." "Safer" pesticides are those that meet a stricter set of criteria.
- In 2000 The Registration Program completed registrations for 9 new chemicals, 3069 amendments, 1106 me-toos, 427 new uses, 95 inerts, 458 special registrations, 452 tolerances, and 13 reduced risk chemicals/biopesticides.
- In 1999 In FY 1999, EPA registered 19 additional reduced risk pesticides, including 13 biopesticides. EPA established 351 new pesticide food tolerances and acted on 681 proposed new pesticide uses, ensuring that all meet the new health safety standard of "reasonable certainty of no harm."

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Register safer chemicals and biopesticides	19	13	92	107	118	131	Regist. (Cum)
Number of State participants in the One Stop Reporting	7	9	53	60	67	74	States

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Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Program.							
The Annual Performance Report is delivered to Congress and reflects all EPA performance measures of Congressional interest as identified in the Annual Performance Plan.	681	427	1896	2329	2679	3,079	Percent
Reduction of detections on a core set of 19 foods eaten by children relative to detection levels for those foods reported in 1994-1996.				Data Avail	Not		Reduced Detect.
Percentage of acre-treatments with reduced risk pesticides				7.5%	8.1%	8.5%	Acre-Treatments
Occurences of residues on a core set of 19 foods eaten by children relative to occurence levels for those foods reported in 1994-1996.					20	25%	reduc. of occur
Number of new uses for previously registered antimicrobial products						8	new uses

Baseline: The baseline for registration of reduced risk pesticides, new chemicals, and new uses, the baseline is zero in the year 1996 (the year FQPA was enacted). Progress is measured cumulatively since 1996. The baseline for acres-treated is 3.6% of total acreage in 1998, when the reduced-risk pesticide acre-treatments was 30,332,499 and total (all pesticides) was 843,063,644 acre-treatments. Each year's total acre-treatments, reported by USDA's National Agricultural Statistical Survey serve as the basis for computing the percentage of acre-treatments using reduced risk pesticides. Acre-treatments count the total number of pesticide treatments each acre receives each year. The baseline for residues on children's foods is occurrence on 33.5% of composite sample of children's foods in the baseline years 1994-1996. There are currently no products registered for use against other potential bio-agents (non-anthrax).

Baseline: There are currently no products registered for use against other potential bio-agents (non-anthrax).

OBJECTIVE: ELIMINATE USE ON FOOD OF PESTICIDES NOT MEETING STANDARDS

By 2008, use on food of current pesticides that do not meet the new statutory standard of "reasonable certainty of no harm" will be eliminated.

Reassess Pesticide Tolerances

In 2004 Ensure that through on-going data reviews, pesticide active ingredients and the products that contain them are reviewed to assure adequate protection for human health and the environment, taking into consideration exposure scenarios such as subsistence lifestyles of Native Americans.

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- In 2003 Assure that pesticides active ingredients registered prior to 1984 and the products that contain them are reviewed to assure adequate protection for human health & the environment. Also consider the unique exposure scenarios such as subsistence lifestyles of Native Americans in regulatory decisions.
- In 2002 Reregistration efforts delayed to focus on reviewing and testing pesticides against anthrax.
- In 2001 EPA reassessed 40% of tolerances requiring reassessment under FQPA and issued a cumulative 72% of total REDs required, achieving both targets.
- In 2000 We did not achieve our FY2000 target for tolerance reassessments due to the ongoing work to establish a science policy on cumulative risk. Although we missed our annual target, we are still on track to meet our statutory deadlines to reassess all tolerances.
- In 1999 Tolerances reassessed by EPA through Sept. 30, 1999 totaled 35%, exceeding both our cumulative target and the statutory deadline of reassessing 33% of the existing tolerances by Aug. 1999.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Tolerance Reassessment	1445	121	40%	66.9	68%	78%	Tolerances(Cum)
Reregistration Eligibility Decisions (REDs)	14	6		72.7%	76%	81.7%	Inspections
UIC / PWSS Inspections	746	552		307	400	750	Percent
Tolerance reassessments for top 20 foods eaten by children			43.5%	65.6	75%	83%	Tolerances(Cum)
Number of inert ingredients tolerances reassessed						100	tolerances

Baseline: The baseline value for tolerance reassessments is the 9,721 tolerances that must be reassessed using FQPA health and safety standards. In FY2004, EPA plans to reassess 1,050 additional tolerances. The baseline for REDS is the 612 REDs that must be completed. In FY2004, EPA plans to complete 35 REDs. The baseline for product reregistration is under development. The baseline for inerts tolerances is 870 that must be reassessed. The baseline for the top 20 foods eaten by children is 893 tolerances that must be reassessed.

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GOAL: PREVENTING POLLUTION AND REDUCING RISK IN COMMUNITIES, HOMES, WORKPLACES AND ECOSYSTEMS

Pollution prevention and risk management strategies aimed at eliminating, reducing, or minimizing emissions and contamination will result in cleaner and safer environments in which all Americans can reside, work and enjoy life. EPA will safeguard ecosystems and promote the health of natural communities that are integral to the quality of life in this nation.

OBJECTIVE: REDUCE PUBLIC AND ECOSYSTEM RISK FROM PESTICIDES

By 2005, public and ecosystem risk from pesticides will be reduced through migration to lower-risk pesticides and pesticide management practices, improving education of the public and at risk workers, and forming "pesticide environmental partnerships" with pesticide user groups.

Partnerships and Risk Reduction

In 2004 Reduce public health and ecosystem risk from pesticides.

In 2003 Reduce public and ecosystem risk from pesticides.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request 20-30	Transitions
Successful transitions from high risk pesticides to effective alternative pest management practices							
Number of efforts identified with USDA, universities, states, and others, leveraging Farm Bill funds, that promote the research and adoption of reduced risk pest management strategies.						40	Efforts
Number of incidents and mortalities to terrestrial and aquatic wildlife caused by the 15 pesticides responsible for the greatest mortality to such wildlife.					20	5%	reduction
Quantified adoption of pollution prevention measures in targeted commodities and farm management strategies.						tbd	grants

Baseline: The baseline for wildlife mortalities, transitions, and efforts are under development. The baseline for grants, which are targeted for adoption and/or development of IPM standards, irrigation water conservation and management, dust mitigation, waste management and other best management practices are under development using Farm Bill funds as leverage, is zero.

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OBJECTIVE: REDUCE RISKS FROM LEAD AND OTHER TOXIC CHEMICALS

By 2007, significantly reduce the incidence of childhood lead poisoning and reduce risks associated with polychlorinated biphenyls (PCBs), mercury, dioxin, and other toxic chemicals of national concern.

Safe PCB Disposal

In 2001 Capacitor, Transformer and Bulk Waste data reported by industry on a calendar year basis and not available until September 2002. The Transformer Reclassification Rule was published on April 2, 2001.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Safe Disposal of Transformers			Avail. 9/1/02				Transformers
Safe Disposal of Capacitors			Avail. 9/1/02				Capacitors

Baseline: Baseline for Capacitors: 1.85 million units; Transformers 2.20 million units; baseline for bulk waste disposal is based on annual disposal of PCB bulk waste from 1990-1995.

Lead Certification and Training of Lead Abatement

In 2000 Additional legal requirements for lead-based paint abatement certification and training for the tribes has delayed development of two tribal programs.

In 1999 EPA continued building the lead-based paint abatement certification and accreditation program by approving 30 state and territory and two tribal programs. In 17 states that do not take on the program, EPA will run certification and accreditation.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of tech assistance or tech dissemination projects carried-out	28	6					projects
A Federal training, accreditation and certification program will be established and administered in states which choose not to seek approval from EPA to administer.	22	19					Federal

Baseline: Baseline will be established in 2001. (Note: 2003 goal of 5000 assumed that both EPA and state certifications would be counted. We have been unable to confirm when/if we will get state data, so are now limiting this to EPA data.)

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Exposure to Industrial / Commercial Chemicals

In 2004 Reduce exposure to and health effects from priority industrial / commercial chemicals

In 2002 Preliminary data lends to our confidence that this goal will be met. We will provide the data and explanation as soon as they are available and it will be in time for the FY 2002 APR

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Safe Disposal of Transformers						8,000	Transformers
Safe Disposal of Capacitors						6,000	Capacitors
Number of individuals certified nationally to perform lead-based paint abatement.				4574		18,000	cert. ind. cum
number of children aged 1-5 years with elevated blood lead levels (>10 ug / dl)						tbd	children

Baseline: The baseline for number of certified individuals for lead paint abatement is zero in 2000. The baseline for PCB transformers is 2.2 million units and for capacitors is 1.85 million units as of 1988 as noted in the 1989 PCB Notification and Manifesting Rule.

OBJECTIVE: MANAGE NEW CHEMICAL INTRODUCTION AND SCREEN EXISTING CHEMICALS FOR RISK

By 2007, prevent or restrict introduction into commerce of chemicals that pose risks to workers, consumers, or the environment and continue screening and evaluating chemicals already in commerce for potential risk.

New Chemicals and Microorganisms Review

In 2001 EPA reviewed 1,770 Premanufacturing Notices. By the end of 2001, 21 percent of all chemicals in commerce had been assessed for risks.

In 2000 All new chemical pre-manufacturing notification submissions were reviewed within the required timeframe.

In 1999 EPA used TSCA authorities to review 1,717 premanufacture notices (PMNs) and exemptions. EPA took control actions on 20 of the 31 notices involving PBTs. EPA received 172 toxicity tests on over 103 chemicals.

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Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of TSCA Pre-Manufacture Notice Reviews	1717	1838	1770				Notices
Notice of Commencements			21.0				NOCs (Cum)

Baseline: In FY 2000, there were potentially 78,598 chemicals in commerce; 15,992 of these chemicals had gone through the TSCA Premanufacture Notice (PMN) process and entered into commerce following submittal of a Notice of Commencement of Manufacturing. These chemicals have been assessed for risks and controls are in place as necessary. A large fraction of these chemicals also may be "green" alternatives to existing chemicals in commerce.

Chemical Right-to-Know Initiative

In 2001 Data was obtained from test plans submitted by industry for 724 chemicals already in commerce.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Through chemical testing program, obtain test data for high production volume chemicals on master testing list.			724				Chemicals

Baseline: Release of national risk screening information first occurred in FY99. First community risk identification analysis were completed in FY00. First National, Regional, and State level risk-based priority setting exercise will be completed in FY02. First expanded use of risk screening tool by other countries will occur in FY02. As data is collected it is available on <http://www.epa.gov/chemtrk>.

Risks from Industrial / Commercial Chemicals

In 2004 Identify, restrict, and reduce risks associated with industrial/commercial chemicals

In 2004 Identify, restrict, and reduce risks associated with industrial/commercial chemicals.

In 2003 Of the approx. 1,800 applic. for new chem. and microorganisms submitted by industry, ensure those marketed are safe for humans and the envir. Increase proportion of commer. chem. that have undergone PMN review to signify they are properly managed and may be potential green altern. to exist. chem.

In 2002 EPA reviewed all 1,943 Pre-manufacturing Notices received during FY 2002. At the end of 2002, 21.5 percent of all chemicals in commerce had been assessed for risks. A large fraction of these chemicals also may be "green" alternatives to existing chemicals in commerce.

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Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of TSCA Pre-Manufacture Notice Reviews				1943	1800	1700	Notices
Make screening level health and environmental effects data publicly available for sponsored HPV chemicals				843		900	cum. chemicals
Number of Self-Audited New Chemical Product Alternatives						250	Alternatives
Reduction in the current year production-adjusted Risk Screening Environmental Indicators risk-based score of releases and transfers of toxic chemicals.						2%	Index
Reports of validation studies for four Tier 1 screening assays						4	scrn assays-cum
Number of chemicals for which sets of 15 AEGL values are made Final.						15	add'l chemicals

Baseline: The baseline for TSCA PMNs in FY2004 is zero. (EPA receives about 1,700 PMNs per year for chemicals about to enter commerce. From 1979-2002, EPA reviewed about 40,000 PMNs. Of the 78,000 chemicals potentially in commerce, 16,618 have gone through the risk-screening process.) The baseline for HPV measure is zero chemicals in 1998. The baseline for the RSEI measure is the index calculated for 2003. The baseline for the Tier 1 screening measure is zero in 1996 - no valid methods for endocrine disruptor screening and testing existed when FQPA was enacted in FY1996. The baseline for self-audited new chemical products is under development.

Baseline: The baseline for the AEGL measure under the base program is 29 cumulative chemicals through 2004.

OBJECTIVE: ENSURE HEALTHIER INDOOR AIR.

By 2005, 16 million more Americans than in 1994 will live or work in homes, schools, or office buildings with healthier indoor air.

Healthier Residential Indoor Air

- In 2004 834,400 additional people will be living in healthier residential indoor environments.
- In 2003 834,400 additional people will be living in healthier residential indoor environments.
- In 2002 On track to ensure that 834,400 additional people will be living in healthier residential indoor environments.
- In 2001 An additional 890,000 additional people are living in healthier residential indoor environments.

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In 2000 1,032,000 additional people are living in healthier residential indoor environments.

In 1999 1,322,000 additional people are living in healthier residential indoor environments.

Performance Measures	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	
	Actuals	Actuals	Actuals	Actuals	Pres. Bud.	Request	
People Living in Healthier Indoor Air	1,322,000	1,032,000	890,000	Data Lag	834,400	834,400	People

Baseline: 1. By 2004, increase the number of people living in homes built with radon resistant features to 3,950,000 from 600,000 in 1994. (cumulative) 2. By 2004, decrease the number of children exposed to ETS from 19,500,000 in 1994 to 16,556,000. (cumulative) 3. By 2004, increase the number of people living in radon-mitigated homes to 1,689,700 from 780,000 from 1994. (cumulative) 4. By 2004, increase by 180,600 the number of people with asthma and their caregivers who are educated about indoor air asthma triggers.

Healthier Indoor Air in Schools

In 2004 1,575,000 students, faculty and staff will experience improved indoor air quality in their schools.

In 2003 1,050,000 students, faculty and staff will experience improved indoor air quality in their schools.

In 2002 On track to ensure that 1,228,500 students, faculty and staff will experience improved indoor air quality in their schools.

In 2001 An additional 1,930,000 students, faculty and staff are experiencing improved indoor air quality in their schools.

In 2000 2,580,000 students, faculty and staff are experiencing improved indoor air quality in their schools.

Performance Measures	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	
	Actuals	Actuals	Actuals	Actuals	Pres. Bud.	Request	
Students/Staff Experiencing Improved IAQ in Schools		2,580,000	1,930,000	Data Lag	1,050,000	1,575,000	Students/Staff

Baseline: The nation has approximately 110,000 schools with an average of 525 students, faculty and staff occupying them for a total baseline population of 58,000,000. The IAQ "Tools for Schools" Guidance implementation began in 1997. For FY 2004, the program projects an additional 3,000 schools will implement the guidance and seeks to obtain implementation commitments from 10 of the 50 largest school districts in the U.S. with an average of 140,000 per district. (Additional, not cumulative since there is not an established baseline for good IAQ practices in schools.)

OBJECTIVE: FACILITATE PREVENTION, REDUCTION AND RECYCLING OF PBTS AND TOXIC CHEMICALS

By 2005, facilitate the prevention, reduction, and recycling of toxic chemicals and municipal solid wastes, including PBTs. In particular, reduce by 20 percent the actual (from 1992 levels) and by 30 percent the production-adjusted (from 1998 levels) quantity of Toxic Release

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Inventory (TRI)-reported toxic pollutants which are released, disposed of, treated, or combusted for energy recovery, half through source reduction.

Toxic Release Inventory (TRI) Pollutants Released

In 2001 No conclusions can be drawn regarding changes in TRI Non-recycled wastes from calendar year 2000 to calendar year 2001 without data.

In 2000 EPA exceeded its target of a reduction of 200 million pounds of TRI pollutants released.

In 1999 Total releases of toxic chemicals decreased by 38.8million pounds from 1995 thru 1997. The 1997 TRI data, however, reflect a continued increase in production related wastes. This increase is accompanied by a continued increase in the use of pollution prevention practices by industry.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Reduction of TRI non-recycled waste (normalized)	1.1B lbs incr.	405 Million	not available				lbs

Baseline: This APG measures changes in TRI Non-Recycled Wastes. TRI data are reported to EPA by facilities by July 02, and compiled and reported publicly by EPA in Spring 03. EPA will do an analysis to determine a new target.

Reducing PBTs in Hazardous Waste Streams

In 2004 Reduce waste minimization priority list chemicals in hazardous waste streams an additional 3% (for a cumulative total of 46% or 81 million pounds) by expanding the use of State and industry partnerships and Regional pilots.

In 2003 Reduce waste minimization priority list chemicals in hazardous waste streams by 43% to 86 million pounds by expanding the use of state and industry partnerships and Regional pilots

In 2002 FY 2002 data is currently not available. Data will be available in December 2003.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percentage reduction in generation of priority list chemicals from 1991 levels.				not available	3%	3%	reduction

Baseline: The target for FY 2002 was for a reduction of 40% (91.2 million pounds) from the 1990 levels. Data will be available in December 2003.

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Municipal Solid Waste Source Reduction

- In 2004 Divert an additional 1% (for a cumulative total of 33% or 79 million tons) of municipal solid waste from land filling and combustion, and maintain per capita generation of RCRA municipal solid waste at 4.5 pounds per day.
- In 2003 Divert an additional 1% (for a cumulative total of 32% or 74 million tons) of municipal solid waste from land filling and combustion, and maintain per capita generation of RCRA municipal solid waste at 4.5 pounds per day.
- In 2002 FY 2002 data is currently not available for the diversion of municipal solid waste from land filling and combustion or maintaining per capita generation of RCRA municipal solid waste. Analysis of FY 2002 data is anticipated by September 2004.
- In 2001 FY 2001 data is not available for the diversion of municipal solid waste from land filling and combustion or maintaining per capita generation of RCRA municipal solid waste. Analysis of FY 2001 data is anticipated by September 2003.
- In 2000 30.1% or 69.9 million tons of municipal solid waste was diverted from land filling and combustion, and the per capita generation decreased to 4.5 pounds per day.
- In 1999 28% or 64 million tons of municipal solid waste was diverted from land filling and combustion, and the per capita generation was raised to 4.6 pounds per day. Increased per capita generation is tied to robust economic expansion.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Millions of tons of municipal solid waste diverted.	64	69.9	not available	not available	74	79	million tons
Daily per capita generation of municipal solid waste.	4.6	4.5	not available	not available	4.5	4.5	lbs. MSW

Baseline: An analysis conducted in FY 2000 shows 70 million tons (30%) of municipal solid waste diverted and 4.5 lbs. of MSW per person daily generation.

Reduction of Industrial / Commercial Chemicals

- In 2004 Prevent, reduce and recycle hazardous industrial/commercial chemicals and municipal solid wastes
- In 2003 The quantity of Toxic Release Inventory (TRI) pollutants released, disposed of, treated or combusted for energy recovery in 2003, (normalized for changes in industrial production) will be reduced by 200 million pounds, or 2%, from 2002. This data will be reported in 2005.
- In 2002 Data Lag

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Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals Not Available	FY 2003 Pres. Bud. 200 Million	FY 2004 Request 200 Million	
Reduction of TRI non-recycled waste (normalized)							lbs
Alternative feed stocks, processes, or safer products identified through Green Chemistry Challenge Award						210	Prod/proc (cum)
Number of participants in Hospitals for a Healthy Environment						2000	Participants
Quantity of hazardous chemicals/solvents eliminated through the Green Chemistry Challenge Awards Program						150 million	lbs
For eco-friendly detergents, track the number of laundry detergent formulations developed.						36	formulations

Baseline: The baseline for the TRI non-recycled wastes measure is the amount of non-recycled wastes reported in FY2003. The baseline for eco-friendly detergents is 0 formulations in 1997. The baseline for the alternative feed stocks / processes measure is zero in 2000. The baseline for the quantity of hazardous chemicals / solvents measures is zero pounds in the year 2000. The baseline for the hospitals measure is zero in FY2001.

OBJECTIVE: ASSESS CONDITIONS IN INDIAN COUNTRY

By 2005, EPA will assist all federally recognized tribes in assessing the condition of their environment, help in building tribes' capacity to implement environmental management programs, and ensure that EPA is implementing programs in Indian country where needed to address environmental issues

Tribal Environmental Baseline/Environmental Priorities

- In 2004 Percent of Tribes will have an environmental presence (e.g., one or more persons to assist in building Tribal capacity to develop and implement environmental programs.
- In 2003 In 2003, AIEO will evaluate non-Federal sources of environmental data pertaining to conditions in Indian Country to enrich the Tribal Baseline Assessment Project.
- In 2002 A cumulative total of 331 environmental assessments have been completed.
- In 2001 Baseline environmental assessments were collected for 207 Tribes.

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In 2000 16% of tribal baseline information was collected by enabling a pilot demonstration model to access and display tribal information from EPA databases and data collection surveys containing environmental information. However, only four EPA/Tribal Environmental Agreements (TEAs) were signed.

In 1999 10% of Tribal environmental baseline information was collected and 46 additional tribes have tribal/EPA environmental agreements or identified environmental priorities.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percent of Tribes with delegated and non-delegated programs (cumulative).						5%	Tribes
Percent of Tribes with EPA-reviewed monitoring and assessment occurring (cumulative).						20%	Tribes
Percent of Tribes with EPA-approved multimedia workplans (cumulative).						18%	Tribes
Tribal environmental baseline information collected	10	16					% Baseline
Tribes with Tribal/EPA environmental agreements or identified environmental priorities	46	4					Tribes
Environmental assessments for Tribes. (cumulative)			207	331			Tribes, etc.
Non-federal sources of environmental data pertaining to conditions in Indian Country.					20		Data sources

Baseline: There are 572 tribal entities that are eligible for GAP program funding. These entities are the ones for which environmental assessments of their lands will be conducted.

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GOAL: BETTER WASTE MANAGEMENT, RESTORATION OF CONTAMINATED WASTE SITES, AND EMERGENCY RESPONSE

America's wastes will be stored, treated and disposed of in ways that prevent harm to people and to the natural environment. EPA will work to clean up previously polluted sites, restore them to uses appropriate for surrounding communities, and respond to and prevent waste-related or industrial accidents.

OBJECTIVE: CONTROL RISKS FROM CONTAMINATED SITES AND RESPOND TO EMERGENCIES

By 2005, EPA and its federal, state, tribal, and local partners will reduce or control the risk to human health and the environment at more than 374,000 contaminated Superfund, RCRA, underground storage tank (UST), and brownfield sites and have the planning and preparedness capabilities to respond successfully to all known emergencies to reduce the risk to human health and the environment.

Superfund Cost Recovery

- | | |
|---------|---|
| In 2004 | Ensure trust fund stewardship by getting PRPs to initiate or fund the work and recover costs from PRPs when EPA expends trust fund monies. Address cost recovery at all NPL and non-NPL sites with a statute of limitations (SOL) on total past costs equal to or greater than \$200,000. |
| In 2003 | Ensure trust fund stewardship by getting PRPs to initiate or fund the work and recover costs from PRPs when EPA expends trust fund monies. Address cost recovery at all NPL and non-NPL sites with a statute of limitations (SOL) on total past costs equal to or greater than \$200,000. |
| In 2002 | The goal was met. Cost recovery was addressed at 204 NPL and non-NPL sites of which 101 had total past costs greater than or equal to \$200,000 and potential statute of limitations (SOL) concerns. EPA secured cleanup and cost recovery commitments from private parties in excess of \$645 million. |
| In 2001 | Although the goal was not met, there was no loss in dollars recovered. Cost recovery was addressed at 208 National Priorities List (NPL) and non-NPL sites during FY 2001, of which 89 had total past costs greater than or equal to \$200,000 and potential statute of limitations (SOL) concerns. EPA addressed cost recovery for 87 of the 89 sites and planned to write off costs associated with the two other SOL cases, but decision documents were not completed before the expiration of the SOL. The documents were finalized before the end of the fiscal year. EPA's cost recovery activities are important because they preserve the Superfund Trust Fund by recovering EPA's past costs, making resources available for other Superfund site cleanups. With respect to private parties in FY 2001, EPA secured cleanup and cost recovery commitments in excess of \$1.7 billion (more than \$1.45 billion for future cleanup and \$355 million for recovery of past costs). |
| In 2000 | Addressed cost recovery at 98.5% of NPL and non-NPL sites with a statute of limitations on total past costs equal to or greater than \$200,000. |
| In 1999 | We met our goal to ensure trust fund stewardship by recovering costs from PRPs when EPA expends trust fund monies. EPA addressed cost recovery at 99% of all National Priority List (NPL) and non-NPL sites with a statute of limitations on total past costs equal to or greater than \$200,000. |

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Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Refer to DOJ, settle, or write off 100% of Statute of Limitations (SOLs) cases for SF sites with total unaddressed past costs equal to or greater than \$200,000 and report value of costs recovered.	99%	98.5	97.8	100	100	100	Percent

Baseline: In FY 98 the Agency will have addressed 100% of Cost Recovery at all NPL & non-NPL sites with total past costs equal or greater than \$200,000.

Superfund Potentially Responsible Party Participat

- In 2004 Maximize all aspects of PRP participation which includes maintaining PRP work at 70% of the new remedial construction starts at non-Federal Facility Superfund, and emphasize fairness in the settlement process.
- In 2003 Maximize all aspects of PRP participation which includes maintaining PRP work at 70% of the new remedial construction starts at non-Federal Facility Superfund, and emphasize fairness in the settlement process.
- In 2002 In FY 2002 the percentage of remedial construction starts initiated by responsible parties exceeded the target by one percent.
- In 2001 In FY 2001 the percentage of remedial construction starts initiated by responsible parties was slightly less than the target, but the average over the past 3 years is 73%. EPA determines the percentage of remedial construction starts conducted by responsible parties at non-federal facility Superfund sites because it indicates the percentage of sites where cleanup is achieved using private party funding as opposed to the Superfund Trust Fund. For the future, the definition of responsible party-led remedial construction starts has been revised to include those construction starts performed by EPA but having the majority of funding come from special accounts. Majority is defined to mean that the funding contributed by responsible parties toward the total response cost to the special account exceeds the amount contributed by the largest non-private entity. To ensure fairness in the settlement process, EPA successfully made orphan share offers at 100% of work settlement negotiations. Of the 18 sites having small waste contributors that were targeted for *de minimis* settlements in FY 2001, 15 *de minimis* settlements were accomplished. The target was missed because of complex issues related to three settlements.
- In 2000 Maximize all aspects of PRP participation by maintaining PRP work at 68% of the new remedial construction starts at non-Federal Facility Superfund sites, while emphasizing fairness in the settlement process.
- In 1999 Achieved >70% responsible party participation in new remedial actions at NPL sites. Goal met with the exception of completing 5 Sect 106 Civil Actions & 2 Remedial Admin Orders primarily due to a decline in the no. of sites available for Remedial Design/Remedial Action negotiation completions.

**6-Year Performance Data
Annual Performance Goals and Measures**

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Section 106 Civil Actions	33						Agreements
Ensure fairness by making Orphan Share Offers at 100% of all eligible settlement negotiations for response work.	100%	100	100				Percent
Provide finality for small contributors by entering into De Minimis settlements and report the number of settlers.	38	18	15				Settlements
Remedial Administrative Orders	17						Orders
Administrative and judicial actions		100					actions
PRPs conduct 70% of the work at new construction starts			67.3	71	70	70	Percent

Baseline: In FY 98 approximately 70% of new remedial work at NPL sites (excluding Federal facilities) was initiated by private parties.

Tribal Cleanup Assistance

In 2004 Increase Tribal cleanup capabilities and assist Tribes in addressing threats from releases.

In 2003 Increase Tribal cleanup capabilities and assist Tribes in addressing threats from releases.

In 2002 41 leaking underground storage tanks were cleaned up. 8 Superfund site assessments conducted at sites of concern to Tribes. Tribes were actively involved in 28.6% of the sites that are of concern to Tribes.

In 2001 In relation to Superfund, 78 Tribes were supported by cooperative agreements, \$3.8 million was provided for capacity building, Tribes were actively involved in 26% of the sites that are of concern to Tribes, and data was not available for assessments. 30 LUSTs were cleaned up.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of leaking underground storage tank cleanups in Indian Country.			30	41	45	45	cleanups
Number of Tribes supported by Brownfields cooperative agreements.						no target	Tribes
Number of Superfund site assessments conducted at sites that are of concern to Tribes.				not available			assessments
Number of Tribes supported by Superfund cooperative			78				agreements

**6-Year Performance Data
Annual Performance Goals and Measures**

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
agreements.							
Amount of Superfund funding provided for building tribal capacity.			\$3.85M				funds
Percentage of Superfund sites that are of concern to Tribes where a Tribe is actively involved.			26%	28.6	no target	no target	percent

Baseline: By the end of FY 2002, 573 leaking underground storage tank cleanups were completed in Indian Country. Baselines for Superfund and Brownfields activities are under development.

Assess and Cleanup Contaminated Land

- In 2004 Assess waste sites.
- In 2004 Clean up and reduce risk at waste sites.
- In 2003 Assess waste sites.
- In 2003 Clean up and reduce risk at waste sites.
- In 2002 Human exposures to toxins were controlled at 172 RCRA facilities and toxic releases to groundwater were controlled at 171 RCRA facilities. 15,769 leaking underground storage tank cleanups were completed, and 42 Superfund construction completions were achieved.
- In 2002 Superfund initiated 426 removal actions and recorded 587 site assessment decisions, and the Brownfields program assessed 983 properties.
- In 2001 Human exposures to toxins were controlled at 179 RCRA facilities and toxic releases to groundwater were controlled at 154 RCRA facilities, 19,074 leaking underground storage tank cleanups were completed, and 47 Superfund construction completions were completed.
- In 2001 Superfund initiated 302 removal response actions and recorded 931 site assessment decisions, and the Brownfields program assessed 730 properties.
- In 2000 Human exposures to toxins were controlled at 191 RCRA facilities and toxic releases to groundwater were controlled at 168 RCRA facilities, 20,834 leaking underground storage tank cleanups were completed, and 87 Superfund construction completions were completed.
- In 2000 Superfund initiated 375 removal response actions and completed 468 site assessment decisions, and the Brownfields program assessed 337 properties.
- In 1999 Human exposures to toxins were controlled at 162 RCRA facilities and toxic releases to groundwater were controlled at 188 RCRA facilities, 25,678 leaking underground storage tank cleanups were completed, and 85 Superfund construction completions were completed.

6-Year Performance Data Annual Performance Goals and Measures

In 1999 The Superfund program initiated 356 removal response actions and conducted 744 site assessments.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of leaking underground storage tank cleanups completed.	25,678	20,834	19,074	15,769	22,500	21,000	cleanups
Number of Superfund final site assessment decisions.	744	468	629	587	475	475	assessments
Number of Superfund removal response actions initiated.	356	375	302	426	275	350	removals
Number of Superfund construction completions.	85	87	47	42	40	40	completions
Number of Superfund hazardous waste sites with human exposures controlled.					10	10	sites
Number of Superfund hazardous waste sites with groundwater migration controlled.					10	10	sites
Number of Brownfields properties assessed.		337	730	983	1,000	1,000	assessments
Number of properties cleaned up using Brownfields funding.						no target	properties
Number of high priority RCRA facilities with human exposures to toxins controlled.	162	191	179	205	257	180	facilities
Number of high priority RCRA facilities with toxic releases to groundwater controlled.	188	168	154	171	172	150	facilities

Baseline: By FY 2002, there have been 7,119 Superfund removal response actions initiated, 37,669 final Superfund site assessment decisions, and 2,824 Brownfields properties assessed. (Brownfields assessment data reflects accomplishment up to the 3rd quarter of FY 2002.) There is a baseline count of 1,199 Superfund sites with human exposures controlled and 772 Superfund sites with groundwater migration controlled. FY 2002 actuals showed 1018 RCRA facilities with human exposures to toxins controlled and 877 RCRA facilities with toxic releases to groundwater controlled; 284,602 leaking underground storage tank cleanups. Baseline data for Brownfields cleanup loans and grants will be developed in FY 2003.

Revitalize Properties

- In 2004 Create jobs through revitalization efforts.
- In 2004 Leverage or generate funds through revitalization efforts.
- In 2004 Make Brownfields property acres available for reuse or continued use.

**6-Year Performance Data
Annual Performance Goals and Measures**

In 2003 Create jobs through revitalization efforts.
 In 2003 Leverage or generate \$0.9 B through revitalization efforts.
 In 2002 \$0.7 billion of cleanup and redevelopment was leveraged.
 In 2002 2,091 jobs were generated from Brownfields activities.
 In 2001 \$0.9 billion of cleanup and redevelopment was leveraged.
 In 2001 3,030 jobs were generated from Brownfields activities.
 In 2000 3,030 jobs were generated from Brownfields activities.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Estimated number of Brownfield property acres available for reuse or continued use.						no target	acres
Number of jobs generated from Brownfields activities.		3,030	3,030	2091	2,000	5,000	jobs
Number of Brownfields job training participants trained.						200	participants
Percentage of Brownfields job training trainees placed.					65%	70	trainees placed
Amount of cleanup and redevelopment funds leveraged at Brownfields sites.			\$0.9B	\$0.7B	\$0.9B	\$1.0B	funds

Baseline: By the end of FY 2002, the Brownfields program had generated 19,646 jobs, provided job training to 913 individuals, placed an average of 65% of job training participants, and leveraged a total of \$6.7 billion. Data reported for FY 2002 reflect accomplishments up to the 3rd quarter of FY 2002.

Homeland Security - Readiness & Response

In 2004 Enhance Homeland Security readiness and response.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percentage of emergency response and homeland security readiness improvement.						10%	readiness

Baseline: In accordance with the EPA strategic plan, a baseline will be established in FY 2003.

6-Year Performance Data Annual Performance Goals and Measures

Research

Scientifically Defensible Decisions for Site Clean

- In 2004 Provide risk assessors and managers with site-specific data sets on three applications detailing the performance of conventional remedies for contaminated sediments to help determine the most effective techniques for remediating contaminated sites and protecting human health and the environment.
- In 2003 To ensure cost-effective and technically sound site clean-up, deliver state-of-the-science reports and methods to EPA and other stakeholders for risk management of fuel oxygenates; organic and inorganic contamination of sediments, ground water and/or soils; and oil spills.
- In 2002 EPA provided evaluation information on six innovative approaches that reduce human health and ecosystem exposure from dense nonaqueous phase liquids (DNAPLs) and methly tertiary butyl-ether (MTBE) in soils and groundwater, and from oil and persistent organics in aquatic systems.
- In 2001 EPA provided technical information to support scientifically defensible and cost-effective decisions for clean-up of complex sites, hard-to-treat wastes, mining, oil spills near shorelines, and Brownfields to reduce risk to human health and the environment.
- In 2000 The MTBE case studies summary report was delayed to include more than the original four sites. The SITE report was sent to OMB in FY 2000, but the time required for approval delayed its arrival in Congress. The dermal exposure route report was delayed until 12/00 to allow for completing peer review.
- In 1999 Produced the annual Superfund Innovative Technology and Evaluation (SITE) Program report, and completed six (6) innovative technology reports.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Summary Report of Case Studies of Natural Attenuation of MTBE, a fuel additive, at Geographically Diverse Locations		0					report
Superfund Innovative Technology Evaluation (SITE) Program Report to Congress.		18-Jan-2001					report
A report summarizing the key research findings methods, models, and factors relating to evaluating the risks from the dermal route of exposure.		31-Dec-2000					report
Review the 20 most common Superfund soil contaminants and develop eco-toxicity soil screening levels for wildlife and soil biota for chemicals where there is sufficient data.		30-Sep-2000					values

**6-Year Performance Data
Annual Performance Goals and Measures**

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Delivery of the Annual SITE Program Report to Congress	30-Nov-1999						
Deliver the Annual SITE Program Report to Congress.			0				report
Complete draft of the FY 2002 Annual SITE Report to Congress.				1	1		draft report
Reports on performance data for conventional sediment remedies for three sites.						3	reports

Baseline: Much of the controversy over selecting remedies for contaminated sediment sites arises because the effects and effectiveness of the remedies is not well documented. Congress identified this issue when it directed EPA to have the National Academy of Science conduct a study of the "...availability, effectiveness, costs, and effects of technologies for the remediation of sediments contaminated with polychlorinated biphenyls (PCBs), including dredging and disposal." The resulting National Research Council (NRC) report included a major recommendation that "Long-term monitoring and evaluation of PCB-contaminated sediment sites should be conducted to evaluate the effectiveness of the management approach and to ensure adequate, continuous protection of humans and the environment." In FY 2004, EPA will complete data sets on implementing and monitoring remedies in order to help reduce the uncertainty associated with remedy selection and to identify the methods that efficiently chart remedy performance over time.

Homeland Security-Building Decontamination Research

In 2004 Provide to building owners, facility managers, and others, methods, guidance documents, and technologies to enhance safety in large buildings and to mitigate adverse effects of the purposeful introduction of hazardous chemical or biological materials into indoor air.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Prepare ETV evaluations on at least 5 new technologies for detection, containment, or decontamination of chemical/biological contaminants in buildings to help workers select safe alternatives.						5	verifications
Through SBIR awards, support as least three new technologies/methods to decontaminate HVAC systems in smaller commercial buildings or decontaminate valuable or irreplaceable materials.						3	techs/methods
Prepare technical guidance for building owners and facility managers on methods/strategies to minimize damage to buildings from intentional introduction of biological/chemical contaminants.						9/30/04	guidance

6-Year Performance Data Annual Performance Goals and Measures

Baseline: Anthrax contamination and the extensive clean-up efforts in postal facilities plus several other government and commercial buildings emphasized the need for improved methods to enhance security against terrorist activities in buildings and provide additional options for cleaning up buildings. EPA's two-year plan focuses on research, development, testing, and communication of enhanced methods for detection and containment of biological and chemical warfare agents and toxic industrial chemicals intentionally introduced into large buildings. This plan also addresses decontamination of building surfaces, furnishings, and equipment, with safe disposal of residual materials. Every effort is being made to coordinate EPA's work with other government agencies, to avoid redundancy and to maximize the utility of this work. With the FY 2004 building decontamination research, emergency responders, building owners/managers, and decontamination crews will have information, including guidance documents and technology evaluations, needed to enhance safety in buildings and to mitigate adverse effects of the purposeful introduction of hazardous chemicals or biological materials into indoor air.

OBJECTIVE: REGULATE FACILITIES TO PREVENT RELEASES

By 2005, EPA and its federal, state, tribal, and local partners will ensure that more than 277,000 facilities are managed according to the practices that prevent releases to the environment.

Oil Spill Response

In 2004 Respond to or monitor 300 oil spills.
 In 2003 Respond to or monitor 300 significant oil spills in the inland zone.
 In 2002 EPA responded to or monitored 203 oil spills.
 In 2001 EPA responded to or monitored 527 oil spills.
 In 2000 EPA responded to or monitored 368 oil spills.
 In 1999 EPA responded to or monitored 323 oil spills.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Oil spills responded to or monitored by EPA.	323	368	527	203	300	300	spills

Baseline: EPA typically responds to or monitors 300 oil spill cleanups per year.

6-Year Performance Data Annual Performance Goals and Measures

Ensure WIPP Safety

- In 2004 Certify that 18,000 55-gallon drums of radioactive waste (containing approximately 54,000 curies) shipped by DOE to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards.
- In 2003 Certify that 12,000 55 gallon drums of radioactive waste (containing approximately 36,000 curies) shipped by DOE to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards.
- In 2002 EPA certified that 22,800 55 gallon drums of radioactive waste (containing approximately 68,400 curies) shipped by DOE to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards.

Performance Measures	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	
	Actuals	Actuals	Actuals	Actuals	Pres. Bud.	Request	
Number of 55-Gallon Drums of Radioactive Waste Disposed of According to EPA Standards				22,800	12,000	18,000	Drums

Baseline: The Waste Isolation Pilot Plant (WIPP) near Carlsbad, NM was opened in May 1999 to accept radioactive transuranic waste. By the end of FY 2002, approximately 35,000 (cumulative) 55 gallon drums will be safely disposed. In FY 2003, EPA expects that DOE will ship an additional 12,000 55 gallon drums of waste. Through FY 2004, EPA expects that DOE will have shipped safely and according to EPA standards, approximately 7.5% of the planned waste volume, based on disposal of 860,000 drums over the next 40 years. Number of drums shipped to the WIPP facility on an annual basis is dependent on DOE priorities and funding. EPA volume estimates are based on projecting the average shipment volumes over 40 years with an initial start up.

Tribal Prevention Assistance

- In 2004 Assist Tribes in evaluation of waste management facility program needs and in the closing or upgrading of open dumps.
- In 2003 Increase the percentage of Tribes evaluated for hazardous waste management by 4 percentage points, and assist in evaluating and closing open dumps on Tribal lands.
- In 2001 177 Tribes were evaluated for RCRA hazardous waste anagement needs. Data for other measures was not available.

Performance Measures	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	
	Actuals	Actuals	Actuals	Actuals	Pres. Bud.	Request	
Percentage of tribes evaluated for hazardous waste management needs.					4	4	percent
Number of open dumps on tribal lands that comply with regulatory landfill standards, or have closed with protections against future dumping put in place.					no target		sites

6-Year Performance Data Annual Performance Goals and Measures

Baseline: By the end of FY 2002, RCRA Subtitle C management needs had been evaluated for 177 Tribes. Baseline data for the Tribal Open Dump Cleanup Project is currently under development.

Build National Radiation Monitoring System

In 2004 EPA will purchase 60 state of the art radiation monitoring units thereby increasing EPA radiation monitoring capacity and population coverage from 37% of the contiguous U.S. population in FY 2002 to 50% in FY 2004.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Increase Population Covered by the National Radiation Monitoring System						13	Percent
Purchase and Deploy State-of-the Art Monitoring Units						60	Units Purchased
Purchase a Deployable Component to the National Radiation Monitoring System						9/30/2004	

Baseline: The current fixed monitoring system, part of the Environmental Radiation Ambient Monitoring System, was developed in the 1960s for the purpose of monitoring radioactive fallout from nuclear weapons testing. The system currently consists of 52 old, low-tech air particulate samplers which provide coverage in cities which represent approximately 37% of the population. By 2005, EPA will upgrade the old system by purchasing 120 state-of-the-art units which will be strategically located to cover approximately 70% of the population. The current system's air samplers will be retired from service due to age, although so some may be retained for emergency use.

Waste and Petroleum Management Controls

- In 2004** Increase the number of waste and petroleum facilities with acceptable or approved controls in place to prevent releases to the environment.
- In 2003** Increase the number of waste and petroleum facilities with acceptable or approved controls in place to prevent releases to the environment.
- In 2002** 1.8% of RCRA hazardous waste management facilities received permits or other approved controls, and 580 oil facilities were in compliance with spill prevention, control and countermeasure provisions of the oil pollution regulations.
- In 2001** 9.1% of RCRA hazardous waste management facilities received permits or other approved controls, and 593 oil facilities were in compliance with spill prevention, control and countermeasure provisions of the oil pollution regulations.
- In 2000** 3.6% of RCRA hazardous waste management facilities received permits or other approved controls, and 678 oil facilities were in compliance with spill prevention, control and countermeasure provisions of the oil pollution regulations.

6-Year Performance Data Annual Performance Goals and Measures

In 1999 3.6% of RCRA hazardous waste management facilities received permits or other approved controls, and 774 oil facilities were in compliance with spill prevention, control and countermeasure provisions of the oil pollution regulations.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of oil facilities in compliance with spill prevention, control and countermeasure provisions of oil pollution prevention regulations.	774	678	593	580	600	600	facilities
Percent of RCRA hazardous waste management facilities with permits or other approved controls.	3.6%	62%	9.1%	1.8%	1.4%	1.4%	percentage pts.
Number of confirmed UST releases nationally.						no target	UST releases
Increase in UST facilities in significant operational compliance with leak detection requirements.					3%	4%	percentage pts.
Increase in UST facilities in significant operational compliance with spill, overflow and corrosion protection regulations.					3%	4%	percentage pts.

Baseline: By the end of FY 2002, 2,925 oil facilities were in compliance with oil pollution prevention regulations, and 79% of approximately 2,750 RCRA facilities had permits or other approved controls in place. By the end of FY 2002, the UST Baseline is 74% of facilities in significant operational compliance with leak detection and 81% of facilities in significant operational compliance with spill, overflow, and corrosion protection. There are an average of 12,000 confirmed releases annually from underground storage tanks.

Chemical Facility Risk Reduction

In 2004	Increase facility risk reduction and state response capabilities.
In 2003	Increase facility risk reduction capabilities.
In 2002	Data not Available.
In 2001	5 states implemented accident prevention programs and 438 risk management plan audits were completed.
In 2000	Three states implemented accident prevention programs and 266 risk management plan audits were completed.
In 1999	Two states implemented chemical accident prevention programs.

**6-Year Performance Data
Annual Performance Goals and Measures**

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of risk management plan audits completed.		266	438	Not Available	300	400	audits
Number of states implementing chemical accident prevention programs.	2	3	5	1	8	No Target	states

Baseline: By the end of FY 2001, 438 risk management plan audits were completed, and 15 states had implemented accident prevention programs.

**6-Year Performance Data
Annual Performance Goals and Measures**

GOAL: REDUCTION OF GLOBAL AND CROSS-BORDER ENVIRONMENTAL RISKS

The United States will lead other nations in successful, multilateral efforts to reduce significant risks to human health and ecosystems from climate change, stratospheric ozone depletion and other hazards of international concern.

OBJECTIVE: REDUCE TRANSBOUNDARY THREATS TO HUMAN AND ECOSYSTEM HEALTH IN NORTH AMERICA.

By 2005, reduce transboundary threats to human health and shared ecosystems in North America, including marine and Arctic environments, consistent with our bilateral and multilateral treaty obligations in these areas, as well as our trust responsibility to tribes.

U.S. - Mexico Border Water/Wastewater Infrastructure

- In 2004 Increase the number of residents in the Mexico border area who are protected from health risks, beach pollution and damaged ecosystems from nonexistent and failing water and wastewater treatment infrastructure by providing improved water and wastewater service.
- In 2003 Increase the number of residents in the Mexico border area who are protected from health risks, beach pollution and damaged ecosystems from nonexistent and failing water and wastewater treatment infrastructure by providing improved water and wastewater service.
- In 2002 Increase the number of residents to 720,000 in the Mexico border area who are protected from health risks, beach pollution and damaged ecosystems from nonexistent and failing water and wastewater treatment infrastructure by providing improved water and wastewater service.
- In 2001 Provided protection to over 576,405 residents in the Mexico border area from health risks, beach pollution and damaged ecosystems from nonexistent and failing water and wastewater treatment infrastructure by providing improved water and wastewater service.
- In 2000 10 Additional water/wastewater projects (cumulative total of 36) along the Mexican border have been certified for design-construction.
- In 1999 9 additional water/wastewater projects along the U.S.-Mexico Border have been certified for design-construction.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of additional people in Mexico border area protected from health risks, because of adequate water & wastewater sanitation systems funded through border environmental infrastructure funding.			576,405	720,000	900,000	990,000	People
Projects certified for design-construction along the Mexican Border	9	10					Projects

6-Year Performance Data Annual Performance Goals and Measures

Baseline: There are approximately 11 million residents in the border area.

Great Lakes: Ecosystem Assessment

In 2004 Great Lakes ecosystem components will improve, including progress on fish contaminants, beach closures, air toxics, and trophic status.

In 2003 Great Lakes ecosystem components will improve, including progress on fish contaminants, beach closures, air toxics, and trophic status.

In 2002 By removing or containing contaminated sediments, 100,000-200,000 pounds of persistent toxics which could adversely affect human health will no longer be biologically available through the food chain. This contributes to decreasing fish contaminants and advances the goal of removing fish advisories

In 2001 Great Lakes ecosystem components improved, including progress on fish contaminants, beach toxics, air toxics, and trophic status.

In 2000 6,000 of acres of aquatic, wetland, riverine, and terrestrial Great Lakes habitats were positively impacted.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Great Lakes Ecosystem Indicator Indices with reports, addressing select fish contaminants, atmospheric deposition, limnology, biology, and sediments.		10					Indices
Long-term concentration trends of toxics (PCBs) in Great Lakes top predator fish.			Uncertain	Declining	5%	5%	Annual decrease
Long-term concentration trends of toxic chemicals in the air.			Declining	Declining	7%	7%	Annual decrease
Total phosphorus concentrations (long-term) in the Lake Erie Central Basin.			Improving	Mixed	10	10	Ug/l
Model predictions for Lake Michigan for toxics reduction scenarios.		5					Predictions

Baseline: Identified targets are currently based on historic trends. The trend (starting with 1972 data) for PCBs in Great Lakes top predator fish toxics is expected to be less than 2 parts per million (the FDA action level), but far above the Great Lakes Initiative target or levels at which fish advisories can be removed. The trend (starting with 1992 data) for PCB concentrations in the air is expected to range from 50 to 250 picograms per cubic meter. The trend (starting with 1983 data) for phosphorus concentrations is expected to range from 4 to 10 parts per billion, levels established in the Great Lakes Water Quality Agreement. The 1970 baseline of oxygen depletion of the Lake Erie central basin is 3.8 mg/liter/month. EPA is working with its partners to refine targets within the next 3 years.

**6-Year Performance Data
Annual Performance Goals and Measures**

Mexico Border Outreach

In 2004 Protect the public health and the environment in the US- Mexico border region.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Increase by 1.5 million the number of people with adequate water and wastewater sanitation systems.						1.5 million	Population serv
Train farmworkers on pesticide risks and safe handling, including ways of minimizing families' and children's risks						50	Trng. Sessions

Baseline: The US-Mexico border region extends more than 3,100 kilometers (2,000 miles) from the Gulf of Mexico to the Pacific Ocean, and 62.5 miles on each side on the international border. More than 11.8 million people reside along the border. The figure is expected to reach 19.4 million by 2020. Ninety percent of the population reside in the 14 paired, interdependent sister cities. Rapid population growth in urban areas has resulted in unplanned development, greater demand for land and energy, increased traffic congestion, increased waste generation, overburdened or unavailable waste treatment and disposal facilities, and more frequent chemical emergencies. Rural areas suffer from exposure to airborne dust, pesticide use, and inadequate water supply and waste treatment facilities. EPA, other U.S. federal agencies, and the Government of Mexico have partnered to address these environmental problems.

OBJECTIVE: REDUCE GREENHOUSE GAS EMISSIONS.

By 2010, U.S. greenhouse gas emissions will be substantially reduced through programs and policies that also lead to reduced costs to consumers of energy and reduced emissions leading to cleaner air and water. In addition, EPA will carry out assessments and analyses and promote education to provide an understanding of the consequences of global change needed for decision making.

Reduce Greenhouse Gas Emissions

In 2004 Greenhouse gas emissions will be reduced from projected levels by approximately 81 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.

In 2003 Greenhouse gas emissions will be reduced from projected levels by approximately 72.2 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.

In 2002 On track to ensure that greenhouse gas emissions will be reduced from projected levels by approximately 65.8 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.

6-Year Performance Data Annual Performance Goals and Measures

- In 2001** EPA's Climate Protection Programs reduced greenhouse gas emissions by 65 million metric tons of carbon equivalent in 2001. EPA estimates that due to investments already made through EPA's technology deployment programs, greenhouse gas emissions will be reduced by more than 500 MMTCE through 2012.
- In 2000** Greenhouse gas emissions were reduced from projected levels by more than 59.3 MMTCE per year through EPA partnerships with businesses, schools, State and local governments, and other organizations thereby offsetting growth in GHG emissions above 1990 level by about 20%.
- In 1999** EPA reduced US greenhouse gas emissions by 46 million metric ton carbon equivalent (MMTCE) per year through partnerships with businesses, schools, state and local governments, and other organizations.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Annual Greenhouse Gas Reductions - All EPA Programs	46	59.3	65	On Track	72.2	81.3	MMTCE
Greenhouse Gas Reductions from EPA's Buildings Sector Programs (ENERGY STAR)	12.7	15.2	16.6	On Track	19.2	21.4	MMTCE
Greenhouse Gas Reductions from EPA's Industrial Efficiency/Waste Management Programs	4.5	5.5	5.8	On Track	6.7	7.4	MMTCE
Greenhouse Gas Reductions from EPA's Industrial Methane Outreach Programs	8.5	13.8	16	On Track	17.0	18.1	MMTCE
Greenhouse Gas Reductions from EPA's Industrial HFC/PFC Programs	15.0	21.4	22.8	On Track	24.9	29.6	MMTCE
Greenhouse Gas Reductions from EPA's Transportation Programs	1.1	1.7	1.9	On Track	2.4	2.8	MMTCE
Greenhouse Gas Reductions from EPA's State and Local Programs	1.6	1.7	1.9	On Track	2.0	2.0	MMTCE
Annual GHG Inventory (FCCC)	1						Inventory

Baseline: The baseline for evaluating program performance is a projection of U.S. greenhouse gas emissions in the absence of the U.S. climate change programs. The baseline was developed as part of an interagency evaluation of the U.S. climate change programs in 2002, which built on similar baseline forecasts developed in 1997 and 1993. Baseline data for carbon emissions related to energy use is based on data from the Energy Information Agency (EIA). Baseline data for non-carbon dioxide (CO₂) emissions, including nitrous oxide and other high global warming potential gases are maintained by EPA. Baseline information is discussed at length in the U.S. Climate Action Report 2002 (www.epa.gov/globalwarming/publications/car/index.html), which provides a discussion of differences in assumptions between the 1997 baseline and the 2002 update, including which portion of energy efficiency programs are included in the estimates. EPA develops the non-CO₂ emissions baselines and projections using information from partners and other sources. EPA continues to develop annual inventories as well as update methodologies as new information becomes available.

6-Year Performance Data Annual Performance Goals and Measures

Reduce Energy Consumption

- In 2004 Reduce energy consumption from projected levels by more than 110 billion kilowatt hours, contributing to over \$7.5 billion in energy savings to consumers and businesses.
- In 2003 Reduce energy consumption from projected levels by more than 95 billion kilowatt hours, contributing to over \$6.5 billion in energy savings to consumers and businesses.
- In 2002 On track to ensure that energy consumption is reduced from projected levels by more than 85 billion kilowatt hours, contributing to over \$10 billion in energy savings to consumers and businesses.
- In 2001 EPA's Climate Protection Programs reduced energy use by 84 billion kilowatt hours in 2001.
- In 2000 Reduced energy consumption from projected levels by about 74 billion kilowatt hours, resulting in over \$8 billion in energy savings to consumers and businesses that participate in EPA's climate change programs.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Annual Energy Savings - All EPA Programs		74	84	On Track	95	110	Billion kWh

Baseline: The baseline for evaluating program performance is a projection of U.S. greenhouse gas emissions in the absence of the U.S. climate change programs. The baseline was developed as part of an interagency evaluation of the U.S. climate change programs in 2002, which built on similar baseline forecasts developed in 1997 and 1993. Baseline data for carbon emissions related to energy use is based on data from the Energy Information Agency (EIA). Baseline data for non-carbon dioxide (CO₂) emissions, including nitrous oxide and other high global warming potential gases are maintained by EPA. Baseline information is discussed at length in the U.S. Climate Action Report 2002 (www.epa.gov/globalwarming/publications/car/index.html), which provides a discussion of differences in assumptions between the 1997 baseline and the 2002 update, including which portion of energy efficiency programs are included in the estimates. EPA develops the non-CO₂ emissions baselines and projections using information from partners and other sources. EPA continues to develop annual inventories as well as update methodologies as new information becomes available.

Clean Automotive Technology

- In 2004 Transfer hybrid powertrain components, originally developed for passenger car applications, to meet size, performance, durability, and towing requirements of Sport Utility Vehicle and urban delivery vehicle applications with an average fuel economy improvement of 25% over the baseline.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Fuel Economy of EPA-Developed SUV Hybrid Vehicle over EPA Driving Cycles Tested						25.2	MPG

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Baseline: The average fuel economy of all SUVs sold in the US in 2001 is 20.2 mpg. Values for 2002, 2003, and 2004 represent 15%, 20%, and 25% improvements over this baseline, respectively. The long-term target is to demonstrate a practical and affordable powertrain that is 30% more efficient by 2005, and 100% more efficient by 2010.

OBJECTIVE: REDUCE STRATOSPHERIC OZONE DEPLETION.

By 2005, ozone concentrations in the stratosphere will have stopped declining and slowly begun the process of recovery. In addition, public education to promote behavior change will result in reduced risk to human health from ultraviolet (UV) overexposure, particularly among susceptible subpopulations such as children.

Restrict Domestic Consumption of Class II HCFCs

- In 2004 Restrict domestic consumption of class II HCFCs below 9,906 ODP-weighted metric tonnes (ODP MTs) and restrict domestic exempted production and import of newly produced class I CFCs and halons below 10,000 ODP MTs.
- In 2003 Restrict domestic consumption of class II HCFCs below 9,906 ODP-weighted metric tonnes (ODP MTs) and restrict domestic exempted production and import of newly produced class I CFCs and halons below 10,000 ODP MTs.
- In 2002 On track to restrict domestic consumption of class II HCFCs below 15,240 ODP-weighted metric tonnes (ODP MTs) and restrict domestic exempted production and import of newly produced class I CFCs and halons below 60,000 ODP MTs.
- In 2001 Restricted domestic consumption of class II HCFCs below 15,240 ODP-weighted metric tonnes (ODP MTs) and restricted domestic exempted production and import of newly produced class I CFCs and halons below 60,000 ODP MTs.
- In 2000 Domestic consumption of class II HCFCs was restricted below 15,240 ODP-weighted metric tonnes (ODP MTs) and domestic exempted production and import of newly produced class I CFCs and halons was restricted below 60,000 ODP MTs.
- In 1999 Domestic consumption of class II HCFCs was restricted to below 208,400 MTs and domestic exempted production and import of newly produced class I CFCs and halons was restricted to below 130,000 MTs.

Performance Measures	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	
	Actuals	Actuals	Actuals	Actuals	Pres. Bud.	Request	
Domestic Consumption of Class II HCFCs	<208,400	13,180	12,087	On Track	<9,906	<9,906	ODP MTs
Domestic Exempted Production and Import of Newly Produced Class I CFC s and Halons	<130,000	462	3,062	On Track	<10,000	<10,000	ODP MTs

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Baseline: The base of comparison for assessing progress on the 2003 annual performance goal is the domestic consumption cap of class II HCFCs as set by the Parties to the Montreal Protocol. Each Ozone Depleting Substance (ODS) is weighted based on the damage it does to the stratospheric ozone - this is its ozone-depletion potential (ODP). Beginning on January 1, 1996, the cap was set at the sum of 2.8 percent of the domestic ODP-weighted consumption of CFCs in 1989 plus the ODP-weighted level of HCFCs in 1989. Consumption equals production plus import minus export.

OBJECTIVE: PROTECT PUBLIC HEALTH AND ECOSYSTEMS FROM PBTS AND OTHER TOXICS.

By 2006, reduce the risks to ecosystems and human health, particularly in tribal and other subsistence-based communities, from persistent, bioaccumulative toxicants (PBTs) and other selected toxins which circulate in the environment on global and regional scales.

Risks from Industrial/Commerical Chemicals (INT)

In 2004 Identify and reduce risks associated with international industrial/commercial chemicals.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
High Production Volume chemicals with complete Screening Information Data Sets (SIDS) submitted to OECD SIDS Initial Assessment Meeting						75	chemicals

Baseline: The baseline is 40 chemicals per year submitted prior to FY2003.

OBJECTIVE: INCREASE DOMESTIC AND INTERNATIONAL USE OF CLEANER AND MORE COST-EFFECTIVE TECHNOLOGIES.

Through 2005, integrate environmental protection with international trade and investment and increase the application of cleaner and more cost-effective environmental practices and technologies in the United States and abroad to ensure that a clean environment and a strong economy go hand-in-hand.

Enhance Institutional Capabilities

In 2004 Enhance environmental management and institutional capabilities in priority countries.

In 2003 Enhance environmental management and institutional capabilities in priority countries.

In 2002 All aspects of this Annual goal were met doing mid-year. Our efforts over the year lead to 2 countires committing to the phase-out of leaded-gasoline. Targeted countries in the Carribean and in Asian completing the 1st phases of their commitments to the POPs conventions with PCB inventories.

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- In 2001 Target Met. EPA conducted environmental institutional building and enhanced the abilities of the following countries to protect their environments and those of the global common: El Salvador, Nicaragua, Honduras, Mexico, China, Thailand, Egypt, Indonesia, Vietnam, & Philippines.
- In 2000 Delivered 12 international training modules; implemented 6 tech assistance/technology dissemination projects; implemented 5 cooperative policy development projects; and disseminated information products on US environmental technologies and techniques to 3100 foreign customers.
- In 1999 3 of the 4 program areas for enhancing global environmental management were met.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of training modules delivered	16	12					modules
Number of tech assistance or tech dissemination projects carried-out	6	6					projects
Number of cooperative policy development projects implemented		5					projects
Number of info products disseminated to foreign customers	2500	3100					products
Number of capacity building activities scheduled for initiation in FY 2000 and beyond	2						report
Number of countries or localities (3) that have adopted new or strengthened environmental laws and policies			3				countries
Number of organizations (3) that have increased environmental planning, analysis, and enforcement capabilities			3				organizations
Number of organizations (3) that have increased capabilities to generate and analyze environmental data and other information			3				organizations
Number of organizations (3) that have increased public outreach and participation			4				organizations
Number of targeted sectors (3) that have adopted cleaner production practices			2				industry sector
Number of cities (3) that have reduced mobile-source based ambient air pollution concentrations			3				cities
Assist in the development or implementation of improved					1	1	countries

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Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
environmental laws or regulations in priority countries.							
Increase the transfer of environmental best practices among the U.S. and its partner countries and build the capacity of developing countries to collect, analyze, or disseminate environmental data.					3	3	countries
Increase the capacity of programs in Africa or Latin America to address safe drinking water quality issues.					1		countries
Baseline:	Sound data collection and analysis facilitates improved environmental legislation, enforcement and planning. EPA is helping to build capacity to collect, analyze and disseminate environmental data for use in priority developing countries to more effectively target resources for environmental protection.						

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GOAL: QUALITY ENVIRONMENTAL INFORMATION

The public and decision makers at all levels will have access to information about environmental conditions and human health to inform decision making and help assess the general environmental health of communities. The public will also have access to educational services and information services and tools that provide for the reliable and secure exchange of quality environmental information.

OBJECTIVE: INCREASE AVAILABILITY OF QUALITY HEALTH AND ENVIRONMENTAL INFORMATION.

Through 2006, EPA will continue to increase the availability of quality health and environmental information through educational services, partnerships, and other methods designed to meet EPA's major data needs, make data sets more compatible, make reporting and exchange methods more efficient, and foster informed decision making.

Process and Disseminate TRI Information - OEI

- In 2004 The increased use of the Toxic Release Inventory Made Easy (TRI-ME) will result in a total burden reduction of 5% for Reporting Year 2003 from Reporting Year 2002 levels.
- In 2003 Expanded information on releases and waste management of lead and lead compounds will be reported by 8,000 facilities in TRI in Reporting Year 2001 and increased usage of TRI-ME will result in total burden reduction of 5% for Reporting Year 2002.
- In 2002 EPA reduced reporting burden, improved data quality, lowered program costs, and speeded data publication by increasing the amount of TRI electronic reporting from from 70% to 92%.
- In 2001 120,000 chemical submissions and revisions processed; published annual summary of TRIS database in April 2001; and TRI Public Data Release published in April 2001.
- In 2000 Processed all submitted facility chemical release reports, published annual summary of TRI data, provided improved information to the public about TRI chemicals, and maximized public access to TRI information.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Total electronic reporting of all chemical submissions processed. (Includes diskette submissions created by ATRS, TRI-ME, and other reporting software programs, as well as web-based submissions.)				92			Percent
TRI Public Data Release		Published	Published				Published
Chemical submissions and revisions processed.		119,000	120,000				Forms

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Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
TRIS database complete and report issued		On Target	Published				Published
Facilities reporting releases and waste management of lead and lead compounds.					8000		Facilities
Percentage of TRI chemical forms submitted over the Internet using TRI-ME and the Central Data Exchange.					25	50	Percent

Baseline: In FY 2001, TRI electronic reporting was 70%.

Information Exchange Network

- In 2004 Improve the quality, comparability, and availability of environmental data for sound environmental decision-making through the Central Data Exchange (CDX).
- In 2003 Decision makers have access to the environmental data that EPA collects and manages to make sound environmental decisions while minimizing the reporting burden on data providers.
- In 2002 The Central Data Exchange (CDX), a key component of the environmental information exchange network, became fully operational and 45 states are using it to send data to EPA; thereby improving data consistency with participating states.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
States using the Central Data Exchange (CDX) to send data to EPA.				45	46		States
In preparation for increasing the exchange of information through CDX, implement four data standards in 13 major systems and develop four additional standards in 2003.					8		Data Standards
Number of private sector and local government entities, such as water authorities, will use CDX to exchange environmental data with EPA.						2000	Entities
CDX offers online data exchange for all major national systems by the end of FY 2004.						13	Systems
Number of states using CDX as the means by which they routinely exchange environmental data with two or more EPA media programs or Regions.						46	States

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Baseline: The Central Data Exchange program began in FY 2001.

OBJECTIVE: PROVIDE ACCESS TO TOOLS FOR USING ENVIRONMENTAL INFORMATION.

By 2006, EPA will provide access to new analytical or interpretive tools beyond 2000 levels so that the public can more easily and accurately use and interpret environmental information.

Data Quality

In 2004 EPA increasingly uses environmental indicators to inform the public and manage for results.

In 2003 The public will have access to a wide range of Federal, state, and local information about local environmental conditions and features in an area of their choice.

In 2002 100% of the publically available facility data from EPA's national systems accessible on the EPA Website is part of the Integrated Error Correction Process; thereby reducing data error.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Publicly available facility data from EPA's national systems, accessible on the EPA Website, will be part of the Integrated Error Correction Process.				100			Percent
Window-to-My Environment is nationally deployed and provides citizens across the country with Federal, state, and local environmental information specific to an area of their choice.					Nationally		Deployed
Establish the baseline for the suite of indicators that are used by EPA's programs and partners in the Agency's strategic planning and performance measurement process.						1	Report

Baseline: An effort to develop a State of the Environment report based on environmental indicators was initiated in FY 2002.

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Research

Risk Assessment

In 2005 Through FY2005 initiate or submit to external review 38 human health assessments and complete 12 human health assessments through the Integrated Risk Information System (IRIS). This information will improve EPA's and other decisionmakers' ability to protect the public from harmful chemical exposure

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Complete 4 human health assessments and publish their results on the IRIS website						4	assessments
Initiate or submit to external peer review human health assessments of 30 high priority chemicals.						30	assessments

Baseline: The Integrated Risk Information System (IRIS) is an EPA database containing Agency consensus scientific positions on potential adverse human health effects that may result from exposure to chemical substances found in the environment. IRIS currently provides information on health effects associated with chronic exposure to over 500 specific chemical substances. IRIS contains chemical-specific summaries of qualitative and quantitative health information in support of the first two steps of the risk assessment process, i.e., hazard identification and dose-response evaluation. Combined with specific situational exposure assessment information, the information in IRIS may be used as a source in evaluating potential public health risks from environmental contaminants. IRIS is widely used in risk assessments for EPA regulatory programs and site-specific decision making. Updating IRIS with new scientific information is critical to maintaining information quality and providing decision makers with a credible source of health effects information. Risk assessment work in FY 2004 will provide EPA and other decision makers with needed updates to IRIS so they can make informed decisions on how to best protect the public from harmful chemical exposure.

OBJECTIVE: IMPROVE AGENCY INFORMATION INFRASTRUCTURE AND SECURITY.

Through 2006, EPA will continue to improve the reliability, capability, and security of EPA's information infrastructure.

Information Security

In 2004 OMB reports that all EPA information systems meet/exceed established standards for security.

In 2003 OMB reports that all EPA information systems meet/exceed established standards for security.

In 2002 Completed risk assessments on the Agency's critical infrastructure systems (12), critical financial systems (13), and mission critical environmental systems (5).

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Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Critical infrastructure systems risk assessment findings will be formally documented and transmitted to systems owners and managers in a formal Risk Assessment document.				12			Systems
Critical financial systems risk assessment findings will be formally documented and transmitted to systems owners and managers in a formal Risk Assessment document.				13			Systems
Mission critical environmental systems risk assessment findings will be formally documented and transmitted to systems owners and managers in a formal Risk Assessment document.				5			Systems
Percent compliance with 13 criteria used by OMB to assess Agency security programs reported annually to OMB under the Government Information Security Regulatory Act.					75	75	Percent
Percent of intrusion detection monitoring sensors installed and operational.					75	75	Percent

Baseline: In FY 2002, the Agency started planning an effort to expand and its strengthen information security infrastructure.

Agency-Wide IT Infrastructure

In 2004 Implement Agency-wide information technology upgrades that will incrementally strengthen and expand infrastructure each year to achieve secure, consistent access for mission priorities, and homeland security needs.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Annual upgrades to technology infrastructure and enterprise information tools occur on schedule per plan, with critical LAN capacity/capability upgrades managed on a five-year replacement cycle.						1	Report

Baseline: The baseline for this program is zero, as it will just begin in FY 2004.

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GOAL: SOUND SCIENCE, IMPROVED UNDERSTANDING OF ENV. RISK AND GREATER INNOVATION TO ADDRESS ENV. PROBLEMS

EPA will develop and apply the best available science for addressing current and future environmental hazards as well as new approaches toward improving environmental protection.

OBJECTIVE: CONDUCT RESEARCH FOR ECOSYSTEM ASSESSMENT AND RESTORATION.

Provide the scientific understanding to measure, model, maintain, and/or restore, at multiple spatial scales, the present and future integrity of highly valued ecosystems.

Research

Regional Scale Ecosystem Assessment Methods

In 2004 Provide Federal, state and local resource managers with a means to more effectively determine long-term trends in the condition and vitality of Eastern U.S. stream ecosystems through measurements of changes in the genetic diversity of stream fish populations.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
A study of fish genetic diversity that demonstrates the power of this emerging technology for evaluating condition and vitality of biotic communities to Federal, state and local resource managers.						1	report

Baseline: The development and application of new and more powerful methods to evaluate ecological integrity is central to many state and Federal assessment programs, including EPA's Environmental Monitoring and Assessment Program (EMAP) and Regional Vulnerability Assessment (ReVA) program. Technological progress in the fields of molecular biology and genetics have allowed, for the first time, the cost-effective analysis of patterns in the genetic diversity of aquatic populations over large regional scales. This genetic information brings new and powerful information to our understanding of aquatic ecosystems, including the identification of appropriate ecological assessment units, the linkages between environmental condition and population responses, and estimates of the future susceptibility of populations due to loss of genetic diversity. In FY 2004, a report will be prepared that summarizes the results of research on the genetic diversity of indicator fish species inhabiting wadeable streams in EMAP's Mid-Atlantic Integrated Assessment (MAIA) area, as well as in parts of Ohio that were evaluated as part of a regional EMAP assessment. This report will provide resource managers and the public with a more complete understanding of the present condition of these biological resources and their vulnerability to predicted environmental changes.

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OBJECTIVE: IMPROVE SCIENTIFIC BASIS TO MANAGE ENVIRONMENTAL HAZARDS AND EXPOSURES.

Improve the scientific basis to identify, characterize, assess, and manage environmental hazards and exposures that pose the greatest health risks to the American public by developing models and methodologies to integrate information about exposures and effects from multiple pathways. This effort includes focusing on risks faced by susceptible populations, such as people differentiated by life stage (e.g., children and the elderly) and ethnic/cultural background.

Research

Human Health Risk Assessment Research

In 2004 Contribute to protecting children from harmful environmental agents in their daily lives by providing risk assessors and managers with better data on children's aggregate exposures in their homes and daycare settings, and improved exposure factors for estimating children's risk.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
External review draft of an updated Exposure Factors Handbook for Children, incorporating new data from EPA studies						1	review draft
Analysis of the "Children Total Exposure to Pesticides and Persistent Organic Pollutants (including EDCs) Study" to estimate aggregate exposures and identify critical exposure factors.						1	report

Baseline: Current risk assessments for children are severely hampered by a lack of exposure data and by exposure factors that are insufficient for describing how exposures change as children grow up and alter their activities. This research will provide significant new data on children's exposures to a wide range of environmental pollutants as they go about their daily lives, focusing on exposures in their homes and/or in daycare centers. The updated exposure factors will be more reliable, since they will incorporate more complete and better data and approaches to describe children's exposures to environmental pollutants. The data and factors developed in FY 2004 will significantly improve the reliability of the estimates of children's exposure and risk used by regulatory decision-makers throughout EPA.

Homeland Security - Rapid Risk Assessment

In 2004 Provide a database of EPA experts on topics of importance to assessing the health and ecological impacts of actions taken against homeland security that is available to key EPA staff and managers who might be called upon to rapidly assess the impacts of a significant terrorist event.

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Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
A restricted access database of EPA experts with knowledge, expertise, and experience for use by EPA to rapidly assess health and ecological impacts focused on safe buildings and water security.						1	database

Baseline: The attacks on the Pentagon and World Trade Center, and the subsequent mailing of anthrax-contaminated letters, were unprecedented events in United States history. Other such events could occur in the future, or a totally different type of an attack might be conducted by a terrorist group or individual. The human health and ecological consequences of such events cannot be known before they happen. It is clear, however, that both human health and the environment will be impacted, either directly or as a result of efforts to contain, decontaminate, or dispose of materials from such events. It is essential that information on human health and ecological risks be developed as quickly as possible to help inform the relevant EPA personnel who can then share that information with public officials and the affected individuals. Such assessments must be conducted recognizing that in many instances supporting technical data will be limited. No current database is available that identifies those individuals within EPA that have the knowledge, experience, and expertise to address risk assessment issues such as source characterization, hazard identification, dose-response assessment, exposure assessment, and risk characterization in a short time frame. The database that will be completed in FY 2004 will allow EPA to develop a quick-response capability to future events so that assessments of human health and ecological impacts can be conducted rapidly. The database is being developed in support of EPA's Draft Strategic Plan for Homeland Security and is focused on the rapid risk assessment tactic described in the strategy.

SOE Report - Human Health Indicators Research

In 2004 Develop a prioritized slate of potential human health indicators that improve EPA's ability to measure environmental progress using direct outcome measures (e.g., improvements in human health) and are appropriate for supporting State of the Environment Reports.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Produce a workshop report on the state of human health indicators to determine areas in which future research is needed.						1	workshop report

Baseline: In Nov 2001, the EPA Administrator gave direction to gather and develop information to help the EPA determine where we are and where we need to go to make sound strategic decisions regarding human health and environmental conditions. To accomplish this task, a document entitled the State of the Environment Report will be produced, backed by a scientifically-based technical support document. The selection and use of the most appropriate indicators that will be described in the technical support document is dependent on the information gained, exchanged and shared at a workshop specifically designed to assess the current state of knowledge and future needs in the area of human health indicator research.

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OBJECTIVE: ENHANCE CAPABILITIES TO RESPOND TO FUTURE ENVIRONMENTAL DEVELOPMENTS.

Enhance EPA's capabilities to anticipate, understand, and respond to future environmental developments; conduct research in areas that combine human health and ecological considerations; and enhance the Agency's capacity to evaluate the economic costs and benefits and other social impacts of environmental policies.

Research

Research to Support the SOE Report

In 2004 Produce a technical report assessing the condition of environmental resources and human health, providing the scientific foundation for a State of the Environment Report and information on areas requiring further scientific data to make sound decisions on protecting human and environmental health.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Produce a technical report on the state of environmental indicators, from which the SOE technical chapters will be developed.						1	tech report

Baseline: In Nov 2001, the EPA Administrator gave direction to gather and develop information to help the EPA determine where we are and where we need to go to make sound strategic decisions regarding human health and environmental conditions. To accomplish this task, a document entitled the State of the Environment Report will be produced, backed by a scientifically-based technical support document. This technical support document will incorporate baseline data and will track changes in air and water quality, food and drinking water safety, waste management and recycling, in addition to tracking national public health and environmental conditions and trends.

Computational Toxicology

In 2004 Develop a computational toxicology research strategy that provides the framework for research that will help fill major data gaps for a large number of chemical testing programs and reduce the cost and use of animal testing.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Produce a computational toxicology research strategy.						1	strategy

Baseline: The objective of the Computational Toxicology Initiative is to integrate modern computing and information technology with molecular biology to improve the Agency's prioritization of data requirements and risk assessment of chemicals. The ultimate goal of computational toxicology research is to demonstrate the feasibility of setting mechanistically-based priorities for chemical risk assessment and to optimize in vivo and in vitro testing

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requirements through the use of computational methods and molecular profiling afforded by the advances in emerging technologies such as proteomics and genomics. The Computational Toxicology Initiative will require the development of a research strategy to outline research priorities and themes that EPA should pursue over the next 5-10 years. In FY 2004, EPA will produce a research strategy that identifies major research gaps and approaches for the development of EPA's computational toxicology research. The Computational Toxicology Initiative started in FY2003 and involves research to evaluate key assumptions in the approach using endocrine-disrupting chemicals. Based on principles derived from these studies, the scope of the initiative will be widened to include other chemical classes starting in FY 2004.

OBJECTIVE: IMPROVE ENVIRONMENTAL SYSTEMS MANAGEMENT.

Provide tools and technologies to improve environmental systems management while continuing to prevent and control pollution and reduce human health and ecological risks originating from multiple economic sectors.

Research

New Technologies

- In 2004 Verify 35 air, water, greenhouse gas, and monitoring technologies so that States, technology purchasers, and the public will have highly credible data and performance analyses on which to make technology selection decisions.
- In 2003 Develop 10 testing protocols and complete 40 technology verifications for a cumulative Environmental Technology Verification (ETV) program total of 230 to aid industry, states, and consumers in choosing effective technologies to protect the public and environment from high risk pollutants.
- In 2002 EPA formalized generic testing protocols for technology performance verification, and provided additional performance verifications of pollution prevention, control and monitoring technologies in all environmental media.
- In 2001 EPA developed, evaluated, and delivered technologies and approaches that eliminate, minimize, or control high risk pollutants from multiple sectors. Delivery of the evaluative report on the Environmental Technology Verification (ETV) pilot program is delayed until FY 2002.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Deliver a Report to Congress on the status and effectiveness of the Environmental Technology Verification (ETV) Program during its first five years.			0				report
Complete 20 stakeholder approved and peer-reviewed test protocols in all environmental technology categories under ETV, and provide them to testing organizations world-wide.				20			protocols
Verify and provide information to States, technology					40		verifications

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Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
<p>purchasers, and the public on 40 air, water, pollution prevention and monitoring technologies for an ETV programmatic total of 230 verifications.</p> <p>Complete an additional 10 stakeholder approved and peer-reviewed test protocols in all environmental technology categories under ETV, and provide them to international testing organizations.</p> <p>Through the ETV program, verify the performance of 35 commercial-ready environmental technologies.</p>					<p>10</p> <p>35</p>	<p>protocols</p> <p>verifications</p>

Baseline: Actual environmental risk reduction is directly related to performance and effectiveness of environmental technologies purchased and used. Private sector technology developers produce almost all the new technologies purchased in the US and around the world. Purchasers and permittees of environmental technologies need an independent, objective, high quality source of performance information in order to make more informed decisions; and vendors with innovative, improved, faster and cheaper environmental technologies need a reliable source of independent evaluation to be able to penetrate the environmental technology market. In FY 2004, the Environmental Technology Verification (ETV) program will verify 35 additional technologies for a programmatic total of over 250 verifications, making data on their pending performance available for public use as well.

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GOAL: A CREDIBLE DETERRENT TO POLLUTION AND GREATER COMPLIANCE WITH THE LAW

EPA will ensure full compliance with laws intended to protect public health and the environment.

OBJECTIVE: INCREASE COMPLIANCE THROUGH ENFORCEMENT.

EPA and its state, tribal, and local partners will improve the environment and protect public health by increasing compliance with environmental laws through a strong enforcement presence.

Non-Compliance Reduction

- In 2004 EPA will direct enforcement actions to maximize compliance and address environmental and human health problems.
- In 2003 EPA will direct enforcement actions to maximize compliance and address environmental and human health problems.
- In 2002 BAsed upon one measure, this APG was not met.
- In 2001 EPA directed enforcement actions to maximize compliance and address environmental and human health problems.
- In 2000 Deterred and reduced noncompliance and achieved environmental and human health improvement. 74.9% of concluded enforcement actions required environmental or human health improvement, such as pollution reduction.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Millions of pounds of pollutants required to be reduced through enforcement actions settled this fiscal year.(core optional)		714	660	261	300	350	M pounds
Establish statistically valid noncompliance rates or other indicators of noncompliance for selected environmental problems.		5					indicators
Establish baseline to measure percentage of significant violators with reoccurring significant violations within 2 years of returning to compliance.		1					baseline
Establish baseline to measure average length of time for significant violators to return to compliance or enter enforceable plans/agreements		1					baseline
Produce a report on the number of civil and criminal		1					Report

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Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
enforcement actions initiated and concluded (core required)							
Percent of concluded enforcement actions require physical action that result in pollutant reductions and/or changes in facility management or information practices. OECA will break out the %.			74	77	75	80	Percent
Develop and use valid compliance rates or other indicators of compliance for selected populations.			6	5	5	5	Populations
Reduce by 2 percentage points overall the level of significant noncompliance recidivism among CAA, CWA, and RCRA programs from FY 2000 levels			2.4	TBD			PercentagePoint
Increase by 2 percent over FY 2000 levels the proportion of significant noncomplier facilities under CAA, CWA, and RCRA which returned to compliance in less than two years. (core required)			1.33	TBD			PercentagePoint
Produce report on the number of civil and criminal enforcement actions initiated and concluded.				TBD			Report

Baseline: Protecting the public and the environment from risks posed by violations of environmental requirements is basic to EPA's mission. To develop a more complete picture of the results of the enforcement and compliance program, EPA has initiated a number of performance measures designed to capture the results of lowering the timeline for significant noncompliers to return to compliance, reducing noncompliance recidivism rates, and improvements in facility process and/or management practices through behavioral changes. The baseline rates for many of these measures were established in FY00. These measures will complement the traditional enforcement measures of inspections and enforcement actions to provide a more complete picture of environmental results from the enforcement and compliance program.

Inspections/Investigations

- In 2004 EPA will conduct inspections, criminal investigations, and civil investigations targeted to areas that pose risks to human health or the environment, display patterns of non-compliance, or include disproportionately exposed populations.
- In 2004 EPA will provide direct investigative, forensic, and technical support to the Office of Homeland Security, FBI and/or other federal, state, and local law enforcement agencies to help detect and prevent, or respond to, terrorist-related environmental, biological or chemical incidents.
- In 2003 EPA will conduct inspections, criminal investigations, and civil investigations targeted to areas that pose risks to human health or the environment, display patterns of non-compliance, or include disproportionately exposed populations.

**6-Year Performance Data
Annual Performance Goals and Measures**

- In 2003 EPA will provide direct investigative, forensic, and technical support to the Office of Homeland Defense, FBI and /or other federal, state and local law infrocement agencies to help detect and prevent, or respons to, terrorist-related environmental, biological or chemcial incidents.
- In 2002 EPA exceeded all targets for inspections and investigations
- In 2002 EPa provided support to Office of Homeland Security and other law enf. agencies as requested.
- In 2001 EPA conducted inspections and civil and criminal investigations targeted to areas with patterns of non-compliance, that pose risks to human health or the environment, or incldue disproportionatley exposed populations.
- In 2000 Conducted 20,123 inspections, 477 criminal investigations, and 660 civil investigations, 15% of which were targeted at priority areas.
- In 1999 We exceeded our goal to deter noncompliance by maintaining levels of field presence and enf. actions, particularly in high risk areas and/or where populations are disproportionately exposed. In 1999, EPA conducted 21,410 (15,000 target) inspections and undertook 3,935 (2,600 target) enf. actions.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of EPA inspections conducted (core required)		20,123	17,812	17668	14,000	15,500	inspections
Percent of inspections and investigation (civil and criminal) conducted at priority areas		15					percent
Number of Criminal Investigations		477	482	674	400	400	Investigations
Number of Civil Investigations		660	368	541	180	225	Investigations
EPA will respond to investigative leads that relate to security of homeland environment, FBI requests for support, and participate in all National Special Security Events as requested.				100	100	100	percent

Baseline: The compliance monitoring program works with states and tribes to target areas that pose risks to human health or the environment, display patterns of noncompliance, or include disproportionately exposed populations. The number of inspections projected varies each year by the complexity of facilities targeted.

Quality Assurance

- In 2004 Identify noncompliance, and focus enforcement and compliance assurance on human health and environmental problems, by maintaining and improving quality and accuracy of data.

6-Year Performance Data Annual Performance Goals and Measures

- In 2003 Identify noncompliance, and focus enforcement and compliance assurance on human health and environmental problems, by maintaining and improving quality and accuracy of data.
- In 2002 EPA continues to operate and modernize enforcement and compliance databases.
- In 2001 EPA maintained and continued to improve enforcement and compliance data used to identify noncompliance and focus on human health and environmental problems.
- In 1999 We met our goal by targeting 7 (of 5 targeted) high priority areas through the MOA process for enforcement and compliance assistance and completing 2 (of 2 targeted) baseline data assessment in major databases, AFS and DOCKET, needed to measure quality of key indicators of compliance.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Data on first city study on microbial enteric disease.	30-Sep-1999						
Complete Phase I of Integrated Compliance Information System (ICIS) development (programming) and begin Phase II.			1				Phase
Operate 14 information systems housing national enforcement and compliance assurance data with a minimum of 95% operational efficiency.			95	95	95		Percent
Complete the detailed design and software development system lifecycle stage of Phase II of ICIS (modernization of the Permit Compliance System (PCS)) by September 2003.					1		lifecycle stage
Have Phase I of the Integrated Compliance Information system ICIS fully operational in March 2002.				1			Phase
Complete system implementation lifecycle stage (i.e. data migration and testing) of Phase II of ICIS by September FY 2004.						1	lifecycle stage

Baseline: EPA's ability to target and measure effectiveness of its enforcement activities depends upon reliable and up-to-date data systems. EPA's 14 data systems will continue to operate at 95% or better operational efficiency. In conjunction with the operation and maintenance of existing systems, EPA will continue its system modernizing efforts and improve data integration and consistency.

6-Year Performance Data Annual Performance Goals and Measures

Capacity Building

- In 2004 Improve capacity of states, localities and tribes to conduct enforcement and compliance programs. EPA will provide training as well as assistance with state and tribal inspections to build capacity, including implementation of the inspector credentials program for tribal law enforcement personnel.
- In 2003 Improve capacity of states, localities and tribes to conduct enforcement and compliance programs. EPA will provide training as well as assistance with state and tribal inspections to build capacity, including implementation of the inspector credentials program for tribal law enforcement personnel.
- In 2002 Capacity building efforts greatly assist state and tribes who are delegated inspection monitoring and enf. activities under many statutes. This year, EPA began collecting Regional training perf. data therefore the results are significantly higher than in past years.
- In 2001 OECA improved the capacity of states, localities and tribes to conduct enforcement and compliance programs.
- In 2000 Improved capacity of states, localities and tribes to conduct enforcement and compliance assurance programs. Conducted 713 EPA-assisted inspections and delivered 154 training classes/seminars to states/localities and tribes.
- In 1999 We exceeded (by 135) our goal of providing specialized assistance and training courses to state and tribal officials to enhance the effectiveness of their programs.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of EPA training classes/seminars delivered to states, localities and tribes to build capacity.				319			Classes
Conduct EPA-assisted inspections to help build state program capacity			895	1081	250	400	Inspections
The National Enforcement Training Institute will train Tribal personnel.			428				personnel
Provide tribal governments with 50 computer-based training (CBT) modules.			235	116			Training module
Total number of state and local students trained.				6631			Students
Train Tribal personnel.				808			Personnel

Baseline: Improve capacity of states, localities and tribes to conduct enforcement and compliance programs by providing training as well as assistance with state and tribal inspections.

**6-Year Performance Data
Annual Performance Goals and Measures**

OBJECTIVE: PROMOTE COMPLIANCE THROUGH INCENTIVES AND ASSISTANCE.

EPA and its state, tribal, and local partners will promote the regulated community's compliance with environmental requirements through voluntary compliance incentives and assistance programs.

Compliance Incentives

- In 2004 Increase opportunities through new targeted sector initiatives for industries to voluntarily self-disclose and correct violations on a corporate-wide basis.
- In 2003 Increase opportunities through new targeted sector initiatives for industries to voluntarily self-disclose and correct violations on a corporate-wide basis.
- In 2002 The number of facilities that participated in voluntary self-audit programs, disclosed and corrected violations greatly exceeded the target.
- In 2001 EPA increased opportunities through targeted sector initiatives for industries to use one of the self-disclosure policies.
- In 2000 Increased entities self-policing and self-correction of environmental problems through use of small business and small community policies.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of facilities that self-disclosed potential violations.		2,200					facilities
Facilities voluntarily self-disclose and correct violations with reduced or no penalty as a result of EPA self-disclosure policies.			1754	1467	500	500	Facilities

Baseline: EPA developed its Audit/Self-Policing Policy in 1995 to encourage corporate audits and subsequent correction of self-discovered violations. That Policy as well as the Small Business Compliance Policy were modified in FY00. The Agency is working to expand the use of the Audit Policy through aggressive outreach to specific sectors. In FY01 the performance measure was modified to reach settlements with 500 facilities to voluntarily self-disclose and correct violations. This same measure has been carried continued.

Regulated Communities

- In 2004 Increase the regulated community's compliance with environmental requirements through their expanded use of compliance assistance. The Agency will continue to support small business compliance assistance centers and develop compliance assistance tools such as sector notebooks and compliance guides.

6-Year Performance Data Annual Performance Goals and Measures

In 2003 Increase the regulated community's compliance with environmental requirements through their expanded use of compliance assistance. The Agency will continue to support small business compliance assistance centers and develop compliance assistance tools such as sector notebooks and compliance guides.

In 1999 We met our goal of inc. use of comp. incentives and the understanding of, and ability to comply with, reg. requirements by operating 9 small bus. compl. asst. centers (meeting target), completing 10 sector notebooks, guides, etc, (target 5), and conducted 22 (target 15) Fed. fac. mgt. reviews.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Compliance Assistance Centers in Operation	9						Centers
Compliance Tools Development	10						Sector Guides
Federal Facility Management Reviews	22						Reviews
Number of facilities, states, technical assistance providers or other entities reached through targeted compliance assistance (core optional)					475,000	500,000	Entities

Baseline: EPA provides clear and consistent descriptions of regulatory requirements to assure that the community can understand its obligations. EPA supports initiatives targeted toward compliance in specific industrial and commercial sectors or with certain regulatory requirements. Compliance assistance tools range from plain-language guides, fact sheets, checklists and newsletters. New distribution methods include the on-line Clearinghouse. In FY03, EPA is planning to reach 475,000 facilities, states, or technical assistance providers through targeted compliance assistance efforts.

**6-Year Performance Data
Annual Performance Goals and Measures**

GOAL: EFFECTIVE MANAGEMENT

EPA will maintain the highest-quality standards for environmental leadership and for effective internal management and fiscal responsibility by managing for results.

OBJECTIVE: MANAGE FOR RESULTS THROUGH SERVICES, POLICIES, AND OPERATIONS.

Demonstrate leadership in managing for results by providing the management services, administrative policies, and operations to enable the Agency to achieve its environmental mission and to meet its fiduciary and workforce responsibilities and mandates.

Strengthen EPAs Management

- In 2004 Strengthen EPA's management services in support of the Agency's mission while addressing the challenges included in the President's Management Agenda
- In 2004 Strengthen EPA's management services in support of the Agency's mission while addressing the challenges included in the President's Management Agenda.
- In 2003 Strengthen EPA's management services in support of the Agency's mission while addressing the challenges included in the President's Management Agenda
- In 2003 Strengthen EPA's management services in support of the Agency's mission while addressing the challenges included in the President's Management Agenda.
- In 2002 EPA prepared and submitted its FY 2001 financial statements and received a clean audit opinion.
- In 1999 This goal helped to ensure a high level of integrity and accountability in the management of contracts. EPA exceeded its goal of 10% and was able to award 15% of its contracts as performance-based in FY 1999.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percentage of new contracts utilizing performance-based statements of work.	15						Percent
Agency's audited Financial Statements and Annual Report are submitted on time.				Goal Met			Statements/Rpt
EPA's audited Financial Statements receive an unqualified opinion and provide information that is useful and				Goal Met			finan statement



**6-Year Performance Data
Annual Performance Goals and Measures**

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
relevant to the Agency and external parties.							
Cumulative number of Agency offices using the workforce planning model which identifies skills and competencies needed by the Agency for strategic recruitment, retention and development planning.					5	10	Offices
Percentage of total eligible service contracting dollars obligated as performance based in FY2003.					30	40	Percent
Agency audited Financial Statements are timely, and receive an unqualified opinion.					1	1	Finan statement

Baseline: The Agency's audited FY 2004 Financial Statements will be submitted on time to OMB and receive an unqualified opinion. Based on FY 2002 performance baselines are: zero for number of Agency offices using the workforce planning model and 20% for performance-based contracts.

OBJECTIVE: PROVIDE QUALITY WORK ENVIRONMENT.

Effectively conduct planning and oversight for building operations and provide employees with a quality work environment that considers safety, new construction, and repairs and that promotes pollution prevention within EPA and with our state, tribal, local, and private partnerships.

Energy Consumption Reduction

In 2004 By 2004, EPA will achieve a 16% energy consumption reduction from 1990 in its 21 laboratories which is in line to meet the 2005 requirement of a 20% reduction from the 1990 base. This includes Green Power purchases.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Cumulative percentage reduction in energy consumption (from 1990).						16	Percent

Baseline: In FY 2000, energy consumption of British Thermal Units (BTUs) per square foot is 320,000 BTUs per square foot.

**6-Year Performance Data
Annual Performance Goals and Measures**

OBJECTIVE: PROVIDE AUDIT, EVALUATION, AND INVESTIGATIVE PRODUCTS AND SERVICES

Provide audit, evaluation, and investigative products and advisory services resulting in improved environmental quality and human health.

Fraud Detection and Deterrence

In 2004 Improve Agency management and program operations by making 160 recommendations, identifying savings, recoveries, and fines, and reducing risks or loss or integrity through 50 criminal, civil, or administrative actions, 80 actions for better business practices and a 150 percent return on investment.

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of business recommendations, improved business practices, and judicial, administrative, or other actions.						290	Actions
Return on the annual dollar investment in the OIG						150	Percent

Baseline: In FY 2002, the OIG established a baseline of 270 business recommendations, improved business practices, and judicial, administrative or other actions for improving Agency management; and a 100% potential dollar return on the investment in the OIG from savings and recoveries.

Audit and Advisory Services

In 2004 Improve environmental quality and human health by identifying 90 environmental recommendations, risks, and best practices; contributing to the reduction of 25 environmental risks, and 70 actions influencing positive environmental or health impacts.

In 2003 Improve environmental quality and human health by identifying 80 environmental recommendations, risks, and best practices; contributing to the reduction of 20 environmental risks, and 60 actions influencing positive environmental or health impacts.

In 2002 The OIG is promoting partnering relationships across governmental entities for collaborative goal setting planning performance measurement evaluation & resource sharing for greater economies of scale. For example, the OIG in collaboration w/PCIE produced an Environmental compendium, a web enabled.

In 2001 The OIG exceeded its annual performance goals of providing timely, independent auditing and consulting services responsive to the needs of our customers that provide value to the agency and recommendations to improve program and operational performance and integrity.

In 2000 OIG provided timely, independent auditing and consulting services responsive to the needs of customers/stakeholders by identifying opportunities for increased economy, efficiency, and effectiveness in achieving environmental results. OIG audit products and services are more customer and goal driven.

In 1999 The Office of Inspector General provided objective, timely, and independent auditing, consulting, and investigative services through such actions as completing 24 construction grant closeout audits.

**6-Year Performance Data
Annual Performance Goals and Measures**

Performance Measures	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Actuals	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Potential monetary value of recommendations, questioned costs, savings and recoveries.	124.9	55.3	\$67.2				Million
Examples of IG recommendations/advice or actions taken to improve the economy, efficiency, and effectiveness of business practices and environmental programs.	60	78	80				Examples
Construction Grants Closeout Audits	24						Audits
Overall customer and stakeholder satisfaction with audit products and services (timeliness, relevancy, usefulness and responsiveness).		76	80%				Percent
Number of environmental risks reduced.					20	25	Risks
Number of environmental actions.				116	60	70	Improvements
Number of recommendations, risks, and best practices identified.				18	80	90	Recommendations

Baseline: In FY 2002, the OIG established a baseline of 75 recommendations, best practices and risks identified contributing to improved Agency environmental goals; and the reduction of 15 environmental risks.

Special Analysis

Environmental Protection Agency
2004 Annual Performance Plan and Congressional Justification
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Special Analysis

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ANNUAL PERFORMANCE PLAN COMPONENTS

Introduction

The Agency's approach to annual planning under the Government Performance and Results Act (GPRA) is based on a full integration of strategic planning, annual planning, budgeting, and accountability. The Agency's Annual Performance Plan and Budget submission to OMB reflects this integration; all of the components of the Annual Performance Plan are contained within the Budget. In addition, to fully explain the Agency's resource needs, the Budget contains a single set of externally reported annual performance goals and performance measures. The Agency will submit a stand-alone Annual Performance Plan to Congress to meet the legislative concern expressed in GPRA that "annual performance plans not be voluminous presentations describing performance...for every activity. The annual performance plan and reports are to inform, not overwhelm the reader."

Annual Plan Organization

The Annual Performance Plan submission to Congress contains the following elements of the Agency's Annual Performance Plan and Congressional Justification:

I. Goals

- Goal Statement
- Background and Context
- Means and Strategy
- External Factors
- Goal Resources

II. Objectives

- Objective Statement
- Key Program Resources
- Annual Performance Goals and Performance Measures:
(The set of APGs included in the Annual Plan are those reported in the Budget Goal Overview. The APGs and PMs in the Annual Plan represent the most significant accomplishments planned for FY2004, and are intended to be used to evaluate the Agency's performance under GPRA.)
- Verification and Validation of Performance Measures

III. Special Analysis

- EPA User Fee Program
- Major Management Challenges
- Working Capital Fund

EPA USER FEE PROGRAM

In FY 2004, EPA will have five (5) user fee programs in operation. These user fee programs are as follows:

Current Fees

- **Pesticide Tolerance Fee**

A tolerance is the maximum legal limit of a pesticide residue in and on food commodities and animal feed. In 1954, the Federal Food, Drug, and Cosmetic Act (FFDCA) authorized the collection of fees for the establishment of tolerances on raw agricultural commodities and in food commodities. These fees supplement annual appropriated funds for EPA's Tolerance Program and are also deposited into the FIFRA Fund. Annually, the fees are adjusted by the percentage change in the Federal employee General Schedule (GS) pay scale. In FY 2004, EPA expects to replace this fee with a more comprehensive cost-recovery fee as required by the FFDCA, and as amended by FQPA. A proposed Tolerance Fee Rule was published in FY 1999. A revised final rule, including response to comments, is under review and includes a new analysis of revenues. FY 2004 fee revenue estimates of \$28.3 M are based on the final rule, updated for COLA.

- **Pre-Manufacturing Notification Fee**

Since 1989, this fee has been collected for the review and processing of new chemical Pre-Manufacturing Notifications (PMN) submitted to EPA by the chemical industry. These fees are paid at the time of submission of the PMN for review by EPA's Office of Prevention, Pesticides and Toxic Substances. PMN fees are authorized by the Toxic Substances Control Act and contain a cap on the amount the Agency may charge for a PMN review. EPA expects to collect \$1,800,000 in PMN fees in FY 2004 if the existing fee structure is not altered. The removal of the statutory fee cap is discussed below under User Fee Proposals.

- **Lead Accreditation and Certification Fee**

The Toxic Substances Control Act, Title IV, Section 402(a)(3), mandates the development of a schedule of fees for persons operating lead training programs accredited under the 402/404 rule and for lead-based paint contractors certified under this rule. The training programs ensure that lead paint abatement is done safely. Fees collected for this activity are deposited in the U.S. Treasury. EPA estimates that less than \$500,000 will be deposited in FY 2004.

Pesticides Fees

This budget proposal assumes collection of tolerance fees, registration fees, and maintenance fees to ensure stable and adequate funding for pesticides evaluation work at EPA. The Administration understands there are a variety of possible legislative, fee-based approaches, that could ensure stable and predictable funding for these activities, and as such, this Administration will work with Congress and other stakeholders to explore other possible solutions.

- **Pesticides Maintenance Fee Extension**

The Maintenance Fee has provided funding for both the Tolerance Reassessment and the Reregistration programs. It expired by statute in 2001 but was extended for a year under the 2002 appropriations bill. In FY 2004, the President's Budget envisions that a revised Tolerance Fee will provide adequate funding for the Tolerance Reassessment program. However, the Reregistration program is now running concurrently with the Tolerance Reassessment program. This budget proposes an extension through 2006 of the Maintenance fee, at the \$8.2 M level, which would provide fee revenue funding support for Reregistration at a level equivalent to prior years.

- **Removal of the Statutory Cap on the Pre-Manufacturing Notification Fee**

The Agency is proposing authorizing and appropriations language to remove the statutory cap on the existing Pre-Manufacturing Notification (PMN) fees to allow EPA to cover the full cost of the PMN program. The authorizing language would remove the current statutory cap in the Toxic Substances Control Act on the total fee that EPA is allowed to charge. The fee change would be subject to an appropriations language trigger that would allow the fees to be counted as discretionary. Under the current fee structure, the Agency would collect \$1,800,000 in FY 2004. The increase in PMN fees will be deposited into a special fund in the U.S. Treasury, available to the Agency, subject to appropriation. After the anticipated rulemaking, the Agency estimates collections of an additional \$4,000,000 in FY 2004.

KEY PROGRAMS BY APPROPRIATION
(Dollars in Thousands)

Key Program	Appropriation	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request
ATSDR Superfund Support	EPM	\$654.3	\$0.0	\$0.0
Acid Rain -CASTNet	S&T	\$3,991.2	\$3,991.2	\$3,991.2
Acid Rain -Program Implementation	EPM	\$12,500.2	\$12,790.4	\$12,812.7
Administrative Law	EPM	\$2,684.0	\$2,869.8	\$2,930.3
Air Toxics Research	S&T	\$18,923.4	\$19,883.7	\$20,342.4
Air, State, Local and Tribal Assistance Grants: Other Air Grants	STAG	\$240,724.5	\$240,724.5	\$247,750.0
American Indian Environmental Office	EPM	\$9,911.6	\$10,219.7	\$10,665.9
<i>American Indian Environmental Office</i>	<i>Total</i>	<i>\$9,911.6</i>	<i>\$10,219.7</i>	<i>\$10,665.9</i>
Assessments	Superfund	\$76,472.9	\$76,236.3	\$77,066.8
Assistance Agreement Audits	IG	\$1,500.0	\$0.0	\$0.0
Assistance Agreement Audits	Superfund-IG	\$500.0	\$0.0	\$0.0
<i>Assistance Agreement Audits</i>	<i>Total</i>	<i>\$2,000.0</i>	<i>\$0.0</i>	<i>\$0.0</i>
Assistance Agreement Investigations	IG	\$1,885.0	\$0.0	\$0.0
Assistance Agreement Investigations	Superfund-IG	\$1,015.0	\$0.0	\$0.0
<i>Assistance Agreement Investigations</i>	<i>Total</i>	<i>\$2,900.0</i>	<i>\$0.0</i>	<i>\$0.0</i>
Beach Grants	STAG	\$10,000.0	\$10,000.0	\$10,000.0
Brownfields	EPM	\$2,819.2	\$29,500.0	\$30,254.1
Brownfields	STAG	\$0.0	\$170,500.0	\$180,500.0
Brownfields	Superfund	\$94,813.5	\$0.0	\$0.0
<i>Brownfields</i>	<i>Total</i>	<i>\$97,632.7</i>	<i>\$200,000.0</i>	<i>\$210,754.1</i>
Capacity Building	EPM	\$9,511.1	\$10,543.4	\$5,785.3
Capacity Building	S&T	\$169.6	\$175.9	\$0.0
Capacity Building	Superfund	\$1,075.5	\$1,368.5	\$0.0
<i>Capacity Building</i>	<i>Total</i>	<i>\$10,756.2</i>	<i>\$12,087.8</i>	<i>\$5,785.3</i>
Carbon Monoxide	EPM	\$3,964.3	\$3,834.3	\$3,887.0
Carbon Monoxide	S&T	\$294.1	\$190.8	\$0.0
<i>Carbon Monoxide</i>	<i>Total</i>	<i>\$4,258.4</i>	<i>\$4,025.1</i>	<i>\$3,887.0</i>
Chesapeake Bay	EPM	\$20,551.8	\$20,650.8	\$20,777.7

KEY PROGRAMS BY APPROPRIATION

(Dollars in Thousands)

Key Program	Appropriation	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request
Children's Indoor Environments	EPM	\$13,287.9	\$13,918.4	\$16,714.5
Children's Health, Program Development and Coordination	EPM	\$6,099.0	\$6,670.9	\$6,710.4
Civil Enforcement	EPM	\$96,651.2	\$93,182.4	\$106,599.9
Civil Enforcement	Oil Spill	\$1,512.0	\$1,538.6	\$1,588.2
Civil Enforcement	S&T	\$2,669.1	\$2,739.0	\$4,156.8
Civil Enforcement	Superfund	\$4,289.5	\$4,379.5	\$3,279.0
<i>Civil Enforcement</i>	<i>Total</i>	<i>\$105,121.8</i>	<i>\$101,839.5</i>	<i>\$115,623.9</i>
Civil Rights/Title VI Compliance	EPM	\$10,143.6	\$11,770.7	\$12,113.8
Climate Change Research	S&T	\$21,350.5	\$21,729.3	\$21,528.6
Climate Protection Program: Buildings	EPM	\$48,571.3	\$49,820.5	\$48,324.5
Climate Protection Program: Carbon Removal	EPM	\$1,549.7	\$1,576.3	\$1,734.5
Climate Protection Program: Industry	EPM	\$25,368.6	\$25,673.1	\$26,439.1
Climate Protection Program: International Capacity Building	EPM	\$6,982.8	\$7,086.5	\$6,608.1
Climate Protection Program: State and Local Climate Change Program	EPM	\$2,245.6	\$2,275.2	\$2,569.0
Climate Protection Program: Transportation	EPM	\$4,404.8	\$4,447.9	\$5,614.4
Climate Protection Program: Transportation	S&T	\$26,425.9	\$17,119.3	\$17,320.3
<i>Climate Protection Program: Transportation</i>	<i>Total</i>	<i>\$30,830.7</i>	<i>\$21,567.2</i>	<i>\$22,934.7</i>
Coastal Environmental Monitoring	S&T	\$7,325.3	\$7,671.2	\$7,801.1
Commission for Environmental Cooperation - CEC	EPM	\$3,396.4	\$3,535.3	\$3,937.8
Common Sense Initiative	EPM	\$1,838.7	\$0.0	\$0.0
Communicating Research Information	ORD Superfund Transfer	\$160.7	\$0.0	\$0.0
Communicating Research Information	S&T	\$5,383.0	\$5,408.9	\$11,243.4
Communicating Research Information	Superfund Research	\$0.0	\$160.7	\$155.7

KEY PROGRAMS BY APPROPRIATION

(Dollars in Thousands)

Key Program	Appropriation	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request
<i>Communicating Research Information</i>	<i>Total</i>	<i>\$5,543.7</i>	<i>\$5,569.6</i>	<i>\$11,399.1</i>
Community Assistance	EPM	\$1,124.6	\$1,428.9	\$0.0
Community Right to Know (Title III)	EPM	\$4,968.4	\$4,953.1	\$5,018.3
Compliance Assistance and Centers	EPM	\$25,735.4	\$25,106.7	\$26,771.6
Compliance Assistance and Centers	LUST	\$670.0	\$689.8	\$586.5
Compliance Assistance and Centers	Oil Spill	\$264.8	\$271.4	\$279.9
<i>Compliance Assistance and Centers</i>	<i>Total</i>	<i>\$26,670.2</i>	<i>\$26,067.9</i>	<i>\$27,638.0</i>
Compliance Incentives	EPM	\$9,512.0	\$9,344.6	\$10,019.8
Compliance Incentives	Superfund	\$583.3	\$345.3	\$288.1
<i>Compliance Incentives</i>	<i>Total</i>	<i>\$10,095.3</i>	<i>\$9,689.9</i>	<i>\$10,307.9</i>
Compliance Monitoring	EPM	\$51,411.8	\$48,487.0	\$56,886.2
Compliance Monitoring	S&T	\$2,644.1	\$2,711.4	\$2,829.8
<i>Compliance Monitoring</i>	<i>Total</i>	<i>\$54,055.9</i>	<i>\$51,198.4</i>	<i>\$59,716.0</i>
Congressional Projects	EPM	\$2,078.6	\$1,991.3	\$2,145.2
Congressional/Legislative Analysis	EPM	\$4,852.2	\$4,857.8	\$4,958.1
Congressionally Mandated Projects	EPM	\$85,223.6	\$0.0	\$0.0
Congressionally Mandated Projects	S&T	\$58,977.0	\$0.0	\$0.0
Congressionally Mandated Projects	STAG	\$343,900.0	\$0.0	\$0.0
<i>Congressionally Mandated Projects</i>	<i>Total</i>	<i>\$488,100.6</i>	<i>\$0.0</i>	<i>\$0.0</i>
Contract Audits	IG	\$3,900.0	\$0.0	\$0.0
Contract Audits	Superfund-IG	\$1,300.0	\$0.0	\$0.0
<i>Contract Audits</i>	<i>Total</i>	<i>\$5,200.0</i>	<i>\$0.0</i>	<i>\$0.0</i>
Contract and Procurement Investigations	IG	\$2,325.0	\$0.0	\$0.0
Contract and Procurement Investigations	Superfund-IG	\$775.0	\$0.0	\$0.0
<i>Contract and Procurement Investigations</i>	<i>Total</i>	<i>\$3,100.0</i>	<i>\$0.0</i>	<i>\$0.0</i>

KEY PROGRAMS BY APPROPRIATION

(Dollars in Thousands)

Key Program	Appropriation	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request
Correspondence Coordination	EPM	\$1,200.7	\$1,096.3	\$1,127.7
Criminal Enforcement	EPM	\$26,321.3	\$26,855.3	\$29,086.0
Criminal Enforcement	S&T	\$5,465.8	\$5,643.2	\$5,575.9
Criminal Enforcement	Superfund	\$9,910.4	\$10,039.6	\$10,504.7
<i>Criminal Enforcement</i>	<i>Total</i>	<i>\$41,697.5</i>	<i>\$42,538.1</i>	<i>\$45,166.6</i>
Data Collection	EPM	\$103.1	\$125.9	\$3,454.0
Data Collection	Superfund	\$22.8	\$0.0	\$0.0
<i>Data Collection</i>	<i>Total</i>	<i>\$125.9</i>	<i>\$125.9</i>	<i>\$3,454.0</i>
Data Management	EPM	\$17,247.6	\$17,768.6	\$26,299.2
Data Management	Superfund	\$1,223.0	\$1,234.2	\$917.0
<i>Data Management</i>	<i>Total</i>	<i>\$18,470.6</i>	<i>\$19,002.8</i>	<i>\$27,216.2</i>
Data Standards	EPM	\$1,512.9	\$2,510.3	\$23,270.8
Data Standards	S&T	\$3,563.2	\$3,633.8	\$4,139.2
Data Standards	Superfund	\$263.8	\$336.5	\$607.5
<i>Data Standards</i>	<i>Total</i>	<i>\$5,339.9</i>	<i>\$6,480.6</i>	<i>\$28,017.5</i>
Design for the Environment	EPM	\$4,707.6	\$4,810.7	\$4,880.6
Direct Public Information and Assistance	EPM	\$8,612.7	\$8,992.6	\$9,475.8
Disadvantaged Communities	EPM	\$4,350.8	\$4,481.3	\$4,677.3
Disaster Management Initiative	EPM	\$0.0	\$0.0	\$1,500.0
Drinking Water Implementation	EPM	\$38,332.9	\$38,935.0	\$44,338.7
<i>Drinking Water Implementation</i>	<i>Total</i>	<i>\$38,332.9</i>	<i>\$38,935.0</i>	<i>\$44,338.7</i>
Drinking Water Regulations	EPM	\$25,908.9	\$27,241.4	\$28,482.2
Drinking Water Regulations	S&T	\$2,688.5	\$2,792.6	\$2,952.7
<i>Drinking Water Regulations</i>	<i>Total</i>	<i>\$28,597.4</i>	<i>\$30,034.0</i>	<i>\$31,434.9</i>
Ecosystems Condition, Protection and Restoration Research	S&T	\$104,492.9	\$105,795.0	\$109,677.6
Effluent Guidelines	EPM	\$22,773.4	\$23,010.3	\$23,632.4
Employee Integrity Investigations	IG	\$750.0	\$0.0	\$0.0
Employee Integrity Investigations	Superfund-IG	\$250.0	\$0.0	\$0.0
<i>Employee Integrity Investigations</i>	<i>Total</i>	<i>\$1,000.0</i>	<i>\$0.0</i>	<i>\$0.0</i>
Endocrine Disruptor Research	S&T	\$10,722.4	\$12,178.7	\$11,917.7
Endocrine Disruptor Screening Program	EPM	\$8,952.4	\$9,063.5	\$9,002.7

KEY PROGRAMS BY APPROPRIATION

(Dollars in Thousands)

Key Program	Appropriation	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request
Enforcement Training	EPM	\$3,230.3	\$3,145.4	\$3,186.2
Enforcement Training	Superfund	\$717.0	\$735.0	\$714.0
<i>Enforcement Training</i>	<i>Total</i>	<i>\$3,947.3</i>	<i>\$3,880.4</i>	<i>\$3,900.2</i>
Environment and Trade	EPM	\$1,672.6	\$1,844.3	\$1,702.5
Environmental Appeals Boards	EPM	\$1,667.3	\$1,737.7	\$1,774.8
Environmental Education Division	EPM	\$9,160.2	\$0.0	\$0.0
Environmental Finance Center Grants (EFC)	EPM	\$2,000.0	\$2,000.0	\$2,000.0
Environmental Justice	EPM	\$4,164.4	\$4,078.8	\$3,826.1
Environmental Justice	Superfund	\$900.0	\$900.0	\$900.0
<i>Environmental Justice</i>	<i>Total</i>	<i>\$5,064.4</i>	<i>\$4,978.8</i>	<i>\$4,726.1</i>
Environmental Monitoring and Assessment Program, EMAP	S&T	\$32,426.0	\$38,259.6	\$38,873.3
Environmental Technology Verification (ETV)	S&T	\$3,607.7	\$3,617.6	\$3,682.0
Executive Support	EPM	\$3,113.0	\$3,121.2	\$3,178.5
Existing Chemical Data, Screening, Testing and Management	EPM	\$28,286.4	\$28,331.9	\$29,667.0
Facilities Infrastructure and Operations	B & F	\$6,960.0	\$31,418.0	\$31,418.0
Facilities Infrastructure and Operations	EPM	\$244,725.9	\$279,773.2	\$290,301.1
Facilities Infrastructure and Operations	LUST	\$721.9	\$824.7	\$826.8
Facilities Infrastructure and Operations	Oil Spill	\$454.1	\$451.9	\$451.9
Facilities Infrastructure and Operations	S&T	\$17,409.9	\$8,539.0	\$8,539.0
Facilities Infrastructure and Operations	Superfund	\$57,303.2	\$55,357.0	\$57,346.6
<i>Facilities Infrastructure and Operations</i>	<i>Total</i>	<i>\$327,575.0</i>	<i>\$376,363.8</i>	<i>\$388,883.4</i>
Federal Facilities	Superfund	\$31,206.5	\$31,915.5	\$32,744.2
Federal Facility IAGs	Superfund	\$8,779.8	\$9,091.7	\$9,653.6
Federal Preparedness	Superfund	\$9,849.3	\$9,883.0	\$10,105.1
Financial Statement Audits	IG	\$3,000.0	\$0.0	\$0.0
Financial Statement Audits	Superfund-IG	\$1,000.0	\$0.0	\$0.0

KEY PROGRAMS BY APPROPRIATION

(Dollars in Thousands)

Key Program	Appropriation	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request
<i>Financial Statement Audits</i>	<i>Total</i>	\$4,000.0	\$0.0	\$0.0
Fish Contamination/Consumption	EPM	\$2,764.8	\$2,788.4	\$2,831.2
Geospatial	EPM	\$983.2	\$743.4	\$16,472.5
Geospatial	Superfund	\$32.1	\$0.0	\$0.0
<i>Geospatial</i>	<i>Total</i>	\$1,015.3	\$743.4	\$16,472.5
Global Toxics	EPM	\$1,522.8	\$1,415.1	\$1,557.1
Global Trade Issues for Pesticides and Chemicals	EPM	\$3,091.2	\$3,125.4	\$3,367.1
Grants to States for Lead Risk Reduction	STAG	\$13,682.0	\$13,682.0	\$13,700.0
Great Lakes	EPM	\$3,208.6	\$2,684.7	\$2,712.2
Great Lakes Legacy Act	EPM	\$0.0	\$0.0	\$15,000.0
Great Lakes National Program Office	EPM	\$14,929.7	\$15,128.2	\$15,392.0
Gulf of Mexico	EPM	\$4,261.6	\$4,327.4	\$4,431.7
Hazardous Air Pollutants	EPM	\$48,130.9	\$48,687.2	\$50,216.6
Hazardous Air Pollutants	S&T	\$4,094.4	\$3,935.2	\$4,019.1
<i>Hazardous Air Pollutants</i>	<i>Total</i>	\$52,225.3	\$52,622.4	\$54,235.7
Hazardous Substance Research: Hazardous Substance Research Centers	ORD Superfund Transfer	\$2,331.7	\$0.0	\$0.0
Hazardous Substance Research: Hazardous Substance Research Centers	Superfund Research	\$0.0	\$2,354.1	\$2,358.4
Hazardous Substance Research: Hazardous Substance Research Centers	Superfund	\$2,245.1	\$2,245.1	\$2,245.1
<i>Hazardous Substance Research: Hazardous Substance Research Centers</i>	<i>Total</i>	\$4,576.8	\$4,599.2	\$4,603.5
Hazardous Substance Research: Superfund Innovative Technology Evaluation (SITE)	ORD Superfund Transfer	\$6,501.0	\$0.0	\$0.0
Hazardous Substance Research: Superfund Innovative Technology Evaluation (SITE)	Superfund Research	\$0.0	\$6,545.0	\$6,572.6
<i>Hazardous Substance Research: Superfund Innovative Technology Evaluation (SITE)</i>	<i>Total</i>	\$6,501.0	\$6,545.0	\$6,572.6

KEY PROGRAMS BY APPROPRIATION

(Dollars in Thousands)

Key Program	Appropriation	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request
Hazardous Waste Research	S&T	\$9,088.3	\$9,548.7	\$10,782.0
Homeland Security- Communication and Information	EPM	\$600.8	\$476.7	\$3,820.3
Homeland Security- Communication and Information	Homeland Security	\$2,181.5	\$0.0	\$0.0
<i>Homeland Security- Communication and Information</i>	<i>Total</i>	<i>\$2,782.3</i>	<i>\$476.7</i>	<i>\$3,820.3</i>
Homeland Security-Critical Infrastructure Protection	EPM	\$500.0	\$3,036.3	\$7,927.8
Homeland Security-Critical Infrastructure Protection	Homeland Security	\$99,641.8	\$0.0	\$0.0
Homeland Security-Critical Infrastructure Protection	S&T	\$1,946.5	\$16,946.5	\$24,782.3
Homeland Security-Critical Infrastructure Protection	STAG	\$5,000.0	\$5,000.0	\$5,000.0
Homeland Security-Critical Infrastructure Protection	Superfund	\$320.0	\$770.7	\$770.7
<i>Homeland Security-Critical Infrastructure Protection</i>	<i>Total</i>	<i>\$107,408.3</i>	<i>\$25,753.5</i>	<i>\$38,480.8</i>
Homeland Security-Preparedness, Response and Recovery	EPM	\$0.0	\$0.0	\$718.3
Homeland Security-Preparedness, Response and Recovery	Homeland Security	\$42,194.0	\$0.0	\$0.0
Homeland Security-Preparedness, Response and Recovery	S&T	\$2,799.2	\$0.0	\$23,911.1
Homeland Security-Preparedness, Response and Recovery	Superfund Research	\$0.0	\$75,000.0	\$8,285.9
Homeland Security-Preparedness, Response and Recovery	Superfund	\$2,685.4	\$12,585.4	\$27,364.3
<i>Homeland Security- Preparedness, Response and Recovery</i>	<i>Total</i>	<i>\$47,678.6</i>	<i>\$87,585.4</i>	<i>\$60,279.6</i>
Homeland Security-Protect EPA Personnel/Infrastructure	B & F	\$0.0	\$11,500.0	\$11,500.0
Homeland Security-Protect EPA Personnel/Infrastructure	EPM	\$0.0	\$6,000.0	\$6,288.0
Homeland Security-Protect EPA Personnel/Infrastructure	Homeland Security	\$30,040.0	\$0.0	\$0.0
Homeland Security-Protect EPA Personnel/Infrastructure	S&T	\$0.0	\$1,500.0	\$2,100.0

KEY PROGRAMS BY APPROPRIATION

(Dollars in Thousands)

Key Program	Appropriation	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request
Homeland Security-Protect EPA Personnel/Infrastructure	Superfund	\$180.0	\$600.0	\$600.0
<i>Homeland Security-Protect EPA Personnel/Infrastructure</i>	<i>Total</i>	<i>\$30,220.0</i>	<i>\$19,600.0</i>	<i>\$20,488.0</i>
Homestake Mine	STAG	\$0.0	\$8,000.0	\$0.0
Human Health Research	S&T	\$47,225.6	\$51,824.5	\$53,633.9
<i>Human Health Research</i>	<i>Total</i>	<i>\$47,225.6</i>	<i>\$51,824.5</i>	<i>\$53,633.9</i>
Immediate Office of the Administrator	EPM	\$4,175.9	\$4,343.7	\$4,413.9
Indoor Environments	EPM	\$9,036.7	\$8,978.1	\$8,153.3
Indoor Environments	S&T	\$329.5	\$329.5	\$706.0
<i>Indoor Environments</i>	<i>Total</i>	<i>\$9,366.2</i>	<i>\$9,307.6</i>	<i>\$8,859.3</i>
Information Exchange Network	STAG	\$25,000.0	\$25,000.0	\$25,000.0
Information Integration	EPM	\$5,783.6	\$17,057.0	\$0.0
Information Integration	Superfund	\$332.5	\$3,100.0	\$0.0
<i>Information Integration</i>	<i>Total</i>	<i>\$6,116.1</i>	<i>\$20,157.0</i>	<i>\$0.0</i>
Information Technology Management	EPM	\$25,291.0	\$25,544.4	\$49,835.8
Information Technology Management	Superfund	\$3,230.4	\$2,537.9	\$7,481.6
<i>Information Technology Management</i>	<i>Total</i>	<i>\$28,521.4</i>	<i>\$28,082.3</i>	<i>\$57,317.4</i>
Intergovernmental Relations - OA	EPM	\$3,687.2	\$4,128.1	\$4,318.5
International Safe Drinking Water	EPM	\$0.0	\$0.0	\$348.0
Investigations	IG	\$0.0	\$6,959.4	\$7,745.0
Investigations	Superfund-IG	\$0.0	\$2,510.2	\$2,782.2
<i>Investigations</i>	<i>Total</i>	<i>\$0.0</i>	<i>\$9,469.6</i>	<i>\$10,527.2</i>
LUST Cleanup Programs	LUST	\$10,067.4	\$10,285.4	\$10,581.0
Lake Champlain	EPM	\$2,500.0	\$954.8	\$954.8
Lead	EPM	\$342.2	\$339.6	\$349.5
Lead Risk Reduction Program	EPM	\$13,092.6	\$13,166.3	\$14,832.9
Leaking Underground Storage Tanks (LUST) Cooperative Agreements	LUST	\$59,331.9	\$58,341.2	\$58,399.1
Legal Services	EPM	\$41,783.6	\$45,458.2	\$47,142.8
Legal Services	Superfund	\$819.5	\$844.5	\$843.8

KEY PROGRAMS BY APPROPRIATION

(Dollars in Thousands)

Key Program	Appropriation	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request
<i>Legal Services</i>	<i>Total</i>	<i>\$42,603.1</i>	<i>\$46,302.7</i>	<i>\$47,986.6</i>
Long Island Sound	EPM	\$2,500.0	\$477.4	\$477.4
Management Services and Stewardship	B&F	\$18,358.0	\$0.0	\$0.0
Management Services and Stewardship	EPM	\$135,925.5	\$107,290.8	\$122,083.2
Management Services and Stewardship	LUST	\$605.7	\$518.3	\$577.6
Management Services and Stewardship	Oil Spill	\$44.7	\$53.2	\$52.5
Management Services and Stewardship	S&T	\$1,174.8	\$198.7	\$176.8
Management Services and Stewardship	Superfund	\$47,626.5	\$41,245.0	\$50,286.6
<i>Management Services and Stewardship</i>	<i>Total</i>	<i>\$203,735.2</i>	<i>\$149,306.0</i>	<i>\$173,176.7</i>
Marine Pollution	EPM	\$7,994.8	\$8,170.7	\$12,630.1
Multi-Media Communications	EPM	\$821.3	\$872.7	\$919.4
Multilateral Fund	EPM	\$9,575.8	\$9,575.8	\$11,000.0
NACEPT Support	EPM	\$1,803.1	\$1,670.1	\$1,692.1
NAFTA Implementation	EPM	\$514.3	\$747.9	\$758.5
NEPA Implementation	EPM	\$11,507.5	\$11,785.8	\$12,296.3
NPDES Program	EPM	\$40,991.0	\$41,720.8	\$44,375.7
National Association Liaison	EPM	\$346.0	\$262.5	\$267.9
National Estuaries Program/Coastal Watersheds	EPM	\$24,521.3	\$19,246.2	\$19,094.2
National Nonpoint Source Program Implementation	EPM	\$16,488.6	\$16,908.6	\$17,628.0
National Program chemicals: PCBs, Asbestos, Fibers, and Dioxin	EPM	\$6,775.5	\$6,994.5	\$7,506.1
New Chemical Review	EPM	\$14,088.8	\$14,730.2	\$15,031.8
Nitrogen Oxides	EPM	\$1,325.5	\$1,399.0	\$1,436.9
Oil Spills Preparedness, Prevention and Response	Oil Spill	\$11,795.4	\$12,332.2	\$12,897.5
Other Federal Agency Superfund Support	Superfund	\$10,676.0	\$10,676.0	\$10,676.0
Ozone	EPM	\$32,783.9	\$34,763.6	\$35,534.7
Ozone	S&T	\$35,671.2	\$42,735.2	\$33,963.2

KEY PROGRAMS BY APPROPRIATION

(Dollars in Thousands)

Key Program	Appropriation	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request
<i>Ozone</i>	<i>Total</i>	<i>\$68,455.1</i>	<i>\$77,498.8</i>	<i>\$69,497.9</i>
PBTI	EPM	\$2,572.5	\$2,580.5	\$2,419.0
POPs Implementation	EPM	\$0.0	\$680.3	\$667.3
Pacific Northwest	EPM	\$1,003.8	\$1,028.5	\$1,072.5
Particulate Matter	EPM	\$29,561.0	\$32,118.5	\$34,368.3
Particulate Matter	S&T	\$22,741.7	\$30,505.8	\$40,419.5
<i>Particulate Matter</i>	<i>Total</i>	<i>\$52,302.7</i>	<i>\$62,624.3</i>	<i>\$74,787.8</i>
Particulate Matter Research	S&T	\$65,468.2	\$66,662.0	\$65,709.4
Partnerships to Reduce High Risk Pesticide Use	EPM	\$10,407.0	\$12,279.8	\$11,686.2
Performance Track	EPM	\$1,834.6	\$1,834.6	\$1,834.6
Pesticide Registration	EPM	\$41,005.9	\$39,981.5	\$33,698.6
Pesticide Registration	S&T	\$2,006.8	\$2,138.7	\$2,282.6
<i>Pesticide Registration</i>	<i>Total</i>	<i>\$43,012.7</i>	<i>\$42,120.2</i>	<i>\$35,981.2</i>
Pesticide Reregistration	EPM	\$35,218.6	\$45,993.2	\$49,123.6
Pesticide Reregistration	S&T	\$2,364.7	\$2,377.9	\$2,380.6
<i>Pesticide Reregistration</i>	<i>Total</i>	<i>\$37,583.3</i>	<i>\$48,371.1</i>	<i>\$51,504.2</i>
Pesticide Residue Tolerance Reassessments	EPM	\$14,671.8	\$5,267.9	\$12,810.5
<i>Pesticide Residue Tolerance Reassessments</i>	<i>Total</i>	<i>\$14,671.8</i>	<i>\$5,267.9</i>	<i>\$12,810.5</i>
Pesticides Program Implementation Grant	STAG	\$13,085.5	\$13,085.5	\$13,100.0
Planning and Resource Management	EPM	\$38,560.2	\$43,857.8	\$42,556.3
Planning and Resource Management	LUST	\$772.3	\$813.9	\$802.2
Planning and Resource Management	Superfund	\$16,962.8	\$18,119.4	\$11,970.1
<i>Planning and Resource Management</i>	<i>Total</i>	<i>\$56,295.3</i>	<i>\$62,791.1</i>	<i>\$55,328.6</i>
Planning, Analysis, and Results - IG	IG	\$4,609.0	\$0.0	\$0.0
Planning, Analysis, and Results - IG	Superfund-IG	\$1,677.0	\$0.0	\$0.0
<i>Planning, Analysis, and Results - IG</i>	<i>Total</i>	<i>\$6,286.0</i>	<i>\$0.0</i>	<i>\$0.0</i>
Pollution Prevention Incentive	STAG	\$5,986.3	\$5,986.3	\$6,000.0

KEY PROGRAMS BY APPROPRIATION

(Dollars in Thousands)

Key Program	Appropriation	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request
Grants to States				
Pollution Prevention Program	EPM	\$9,597.8	\$9,902.8	\$10,626.9
Premanufacturing Notification Fee	Offsetting Receipts	\$0.0	(\$4,000.0)	(\$4,000.0)
Preventing Contamination of Drinking Water Sources	EPM	\$23,470.2	\$22,096.8	\$23,311.9
Program Audits	IG	\$3,675.0	\$0.0	\$0.0
Program Audits	Superfund-IG	\$1,225.0	\$0.0	\$0.0
Program Audits	Total	\$4,900.0	\$0.0	\$0.0
Program Evaluation - IG	IG	\$11,250.0	\$0.0	\$0.0
Program Evaluation - IG	Superfund-IG	\$3,750.0	\$0.0	\$0.0
Program Evaluation - IG	Total	\$15,000.0	\$0.0	\$0.0
Program Evaluations/Audit	IG	\$0.0	\$28,365.6	\$29,062.7
Program Evaluations/Audit	Superfund-IG	\$0.0	\$10,231.8	\$10,431.4
Program Evaluations/Audit	Total	\$0.0	\$38,597.4	\$39,494.1
Program Integrity Investigations	IG	\$1,125.0	\$0.0	\$0.0
Program Integrity Investigations	Superfund-IG	\$375.0	\$0.0	\$0.0
Program Integrity Investigations	Total	\$1,500.0	\$0.0	\$0.0
Public Access	EPM	\$12,931.2	\$14,068.3	\$15,143.5
Public Access	S&T	\$279.3	\$324.8	\$0.0
Public Access	Superfund	\$703.8	\$1,176.3	\$581.3
Public Access	Total	\$13,914.3	\$15,569.4	\$15,724.8
RCRA Corrective Action	EPM	\$38,262.3	\$38,965.2	\$41,107.4
RCRA Enforcement State Grants	STAG	\$42,904.7	\$42,904.7	\$42,904.7
RCRA Improved Waste Management	EPM	\$61,174.6	\$61,860.0	\$61,050.3
RCRA State Grants	STAG	\$63,458.9	\$63,458.9	\$63,495.3
RCRA Waste Reduction	EPM	\$14,633.7	\$13,740.7	\$16,850.2
Radiation	EPM	\$13,897.5	\$14,253.5	\$14,844.4
Radiation	S&T	\$5,546.2	\$5,931.3	\$6,771.6
Radiation	Superfund	\$2,180.3	\$2,234.3	\$2,336.5
Radiation	Total	\$21,624.0	\$22,419.1	\$23,952.5
Radon	EPM	\$5,095.7	\$5,095.7	\$5,659.1
Radon	S&T	\$1,357.3	\$1,398.2	\$528.9

KEY PROGRAMS BY APPROPRIATION

(Dollars in Thousands)

Key Program	Appropriation	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request
<i>Radon</i>	<i>Total</i>	<i>\$6,453.0</i>	<i>\$6,493.9</i>	<i>\$6,188.0</i>
Recreational Water and Wet Weather Flows Research	S&T	\$5,635.8	\$5,496.6	\$5,966.2
Regional Geographic Program	EPM	\$7,609.2	\$8,651.1	\$8,755.7
Regional Haze	EPM	\$2,535.9	\$2,408.1	\$2,453.8
Regional Management	EPM	\$32,104.4	\$32,476.8	\$39,311.1
Regional Management	LUST	\$143.7	\$143.7	\$143.7
Regional Management	Oil Spill	\$23.8	\$23.8	\$23.8
Regional Management	Superfund	\$8,485.0	\$8,577.2	\$11,307.7
<i>Regional Management</i>	<i>Total</i>	<i>\$40,756.9</i>	<i>\$41,221.5</i>	<i>\$50,786.3</i>
Regional Operations and Liaison	EPM	\$547.5	\$477.6	\$487.5
Regional Program Infrastructure	EPM	\$4,604.6	\$4,604.6	\$0.0
Regional Program Infrastructure	Superfund	\$1,527.6	\$1,427.5	\$0.0
<i>Regional Program Infrastructure</i>	<i>Total</i>	<i>\$6,132.2</i>	<i>\$6,032.1</i>	<i>\$0.0</i>
Regional Science and Technology	EPM	\$3,574.9	\$3,601.8	\$3,609.2
Regional and Global Environmental Policy Development	EPM	\$2,362.7	\$2,046.8	\$1,629.3
Regulatory Development	EPM	\$27,412.1	\$36,381.5	\$38,565.7
Reinventing Environmental Information (REI)	EPM	\$7,812.1	\$7,542.8	\$0.0
Reinventing Environmental Information (REI)	S&T	\$33.5	\$0.0	\$0.0
Reinventing Environmental Information (REI)	Superfund	\$778.2	\$357.2	\$0.0
<i>Reinventing Environmental Information (REI)</i>	<i>Total</i>	<i>\$8,623.8</i>	<i>\$7,900.0</i>	<i>\$0.0</i>
Research to Support Contaminated Sites	LUST	\$687.1	\$696.0	\$628.5
Research to Support Contaminated Sites	ORD Superfund Transfer	\$27,304.6	\$0.0	\$0.0
Research to Support Contaminated Sites	Oil Spill	\$905.2	\$909.9	\$915.0
Research to Support Contaminated Sites	S&T	\$1,000.0	\$0.0	\$0.0
Research to Support Contaminated Sites	Superfund Research	\$0.0	\$26,515.2	\$26,731.8

KEY PROGRAMS BY APPROPRIATION
(Dollars in Thousands)

Key Program	Appropriation	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request
<i>Research to Support Contaminated Sites</i>	<i>Total</i>	<i>\$29,896.9</i>	<i>\$28,121.1</i>	<i>\$28,275.3</i>
Research to Support Emerging Issues	S&T	\$28,658.5	\$29,150.8	\$41,470.5
Research to Support FQPA	S&T	\$12,594.4	\$12,042.3	\$13,272.9
Research to Support Pollution Prevention	ORD Superfund Transfer	\$593.0	\$0.0	\$0.0
Research to Support Pollution Prevention	S&T	\$37,079.9	\$43,482.4	\$37,276.3
Research to Support Pollution Prevention	Superfund Research	\$0.0	\$593.0	\$593.0
<i>Research to Support Pollution Prevention</i>	<i>Total</i>	<i>\$37,672.9</i>	<i>\$44,075.4</i>	<i>\$37,869.3</i>
Research to Support Safe Communities	S&T	\$21,593.6	\$25,149.6	\$25,628.4
Risk Management Plans	EPM	\$7,202.9	\$7,446.0	\$7,489.9
SBREFA	EPM	\$686.2	\$608.8	\$616.2
STAR Fellowships Program	S&T	\$9,748.7	\$0.0	\$4,875.0
Safe Drinking Water Research	S&T	\$45,579.5	\$49,491.0	\$49,231.3
Safe Pesticide Applications	EPM	\$11,157.2	\$10,193.9	\$12,451.1
Safe Pesticide Applications	S&T	\$25.0	\$0.0	\$0.0
<i>Safe Pesticide Applications</i>	<i>Total</i>	<i>\$11,182.2</i>	<i>\$10,193.9</i>	<i>\$12,451.1</i>
Safe Recreational Waters	EPM	\$834.4	\$842.7	\$858.3
Science Advisory Board	EPM	\$2,887.8	\$3,352.5	\$4,409.0
Science Coordination and Policy	EPM	\$492.2	\$950.1	\$1,603.8
Sector Grants	STAG	\$2,209.3	\$2,209.3	\$2,250.0
Small Business Ombudsman	EPM	\$3,049.1	\$3,124.0	\$3,148.7
Small, Minority, Women-Owned Business Assistance	EPM	\$2,295.5	\$3,305.0	\$3,407.3
South Florida/Everglades	EPM	\$2,648.3	\$2,665.5	\$2,690.0
State Multimedia Enforcement Grants	STAG	\$0.0	\$15,000.0	\$0.0
State Nonpoint Source Grants	STAG	\$237,476.8	\$238,476.8	\$238,500.0
State PWSS Grants	STAG	\$93,100.2	\$93,100.2	\$105,100.0
State Pesticides Enforcement Grants	STAG	\$19,867.8	\$19,867.8	\$19,900.0
State Pollution Control Grants	STAG	\$192,476.9	\$180,376.9	\$200,400.0

KEY PROGRAMS BY APPROPRIATION

(Dollars in Thousands)

Key Program	Appropriation	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request
<i>(Section 106)</i>				
State Toxics Enforcement Grants	STAG	\$5,138.9	\$5,138.9	\$5,150.0
State Underground Injection Control Grants	STAG	\$10,950.9	\$10,950.9	\$11,000.0
State Water Quality Cooperative Agreements	STAG	\$18,958.2	\$38,958.2	\$19,000.0
State Wetlands Program Grants	STAG	\$14,967.0	\$14,967.0	\$20,000.0
Stratospheric Ozone Protection	EPM	\$5,602.7	\$5,642.2	\$5,786.6
Sulfur Dioxide	EPM	\$12,318.5	\$13,624.7	\$14,102.2
Superfund - Cost Recovery	Superfund	\$29,597.5	\$30,375.9	\$31,058.6
Superfund - Justice Support	Superfund	\$28,150.0	\$28,150.0	\$28,150.0
Superfund - Maximize PRP Involvement (including reforms)	Superfund	\$82,181.5	\$84,396.9	\$89,471.3
Superfund Remedial Actions	Superfund	\$488,951.3	\$493,646.5	\$649,345.1
Superfund Removal Actions	Superfund	\$202,654.0	\$202,610.3	\$203,189.5
System Modernization	EPM	\$12,875.0	\$12,210.0	\$0.0
System Modernization	Superfund	\$815.0	\$1,480.0	\$0.0
<i>System Modernization</i>	<i>Total</i>	<i>\$13,690.0</i>	<i>\$13,690.0</i>	<i>\$0.0</i>
TMDLs	EPM	\$21,232.1	\$21,433.2	\$25,083.7
Targeted Watershed Grants	STAG	\$0.0	\$0.0	\$20,000.0
Technical Cooperation with Industrial and Developing Countries	EPM	\$4,478.4	\$4,330.1	\$3,518.2
Toxic Release Inventory / Right-to-Know (RtK)	EPM	\$14,155.6	\$15,293.2	\$13,057.4
Tribal General Assistance Grants	STAG	\$52,469.7	\$57,469.7	\$62,500.0
Tropospheric Ozone Research	S&T	\$6,514.8	\$6,758.1	\$7,024.0
U.S. - Mexico Border	EPM	\$4,149.5	\$5,364.6	\$6,484.4
UST State Grants	STAG	\$11,918.4	\$11,918.4	\$11,950.0
Underground Storage Tanks (UST)	EPM	\$6,795.7	\$7,026.4	\$7,153.2
Wastewater Management/Tech Innovations	EPM	\$8,840.1	\$9,073.7	\$9,485.2
Water Infrastructure: Alaska Native Villages	STAG	\$40,000.0	\$40,000.0	\$40,000.0
Water Infrastructure: Puerto Rico	STAG	\$0.0	\$0.0	\$8,000.0
Water Infrastructure: Clean Water State Revolving Fund (CW-SRF)	STAG	\$1,350,000.0	\$1,212,000.0	\$850,000.0

KEY PROGRAMS BY APPROPRIATION

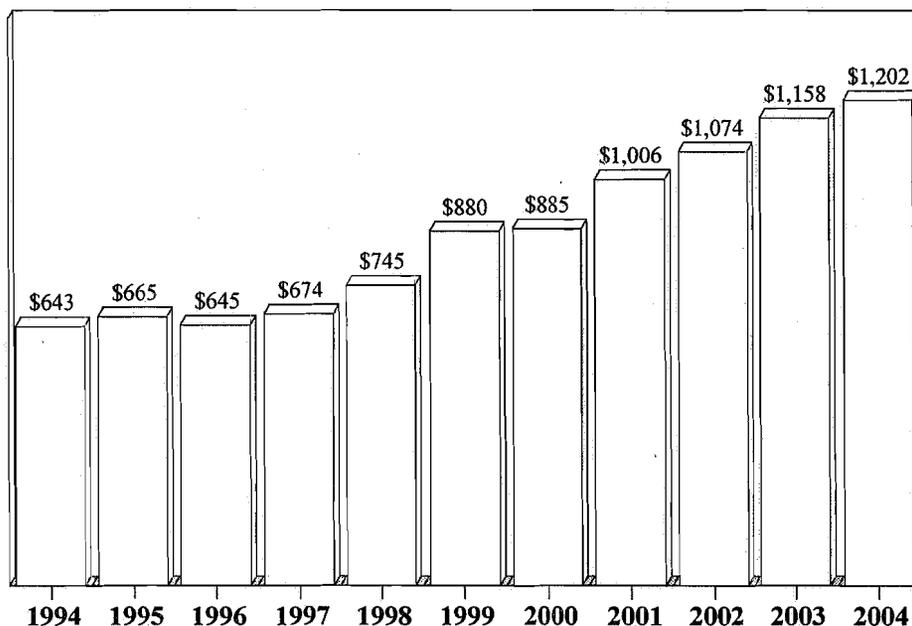
(Dollars in Thousands)

Key Program	Appropriation	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request
Water Infrastructure: Drinking Water State Revolving Fund (DW-SRF)	STAG	\$850,000.0	\$850,000.0	\$850,000.0
Water Infrastructure: Mexico Border	STAG	\$75,000.0	\$75,000.0	\$50,000.0
Water Quality Criteria and Standards	EPM	\$18,782.4	\$19,127.2	\$24,076.8
Water Quality Infrastructure Protection	EPM	\$16,783.7	\$17,239.3	\$18,055.7
Water Quality Monitoring and Assessment	EPM	\$11,665.1	\$11,967.7	\$14,072.1
Watershed Assistance	EPM	\$7,821.6	\$9,479.1	\$9,395.6
Web Products Quality Control	EPM	\$879.5	\$767.0	\$812.4
Wetlands	EPM	\$17,829.8	\$18,381.9	\$19,299.9
TOTAL		\$8,093,721.8	\$7,616,513.0	\$7,626,537.3

STATE AND TRIBAL ASSISTANCE GRANTS (STAG)
Appropriation Account
(Dollars in thousands)

	FY 2001 Enacted Budget w/Rec	FY 2002 Enacted Budget	FY 2003 President's Budget	FY 2004 President's Budget	Differences between '04 PB & '03 PB
STATE and TRIBAL GRANT ASSISTANCE	\$1,005,782.4	\$1,079,376.0	\$1,158,276.0	\$1,202,700.0	\$44,424.0
INFRASTRUCTURE ASSISTANCE					
<u>State Revolving Funds</u>					
Clean Water State Revolving Fund	\$1,347,030.0	\$1,350,000.0	\$1,212,000.0	\$850,000.0	-\$362,000.0
Drinking Water State Revolving Fund	\$823,185.0	\$850,000.0	\$850,000.0	\$850,000.0	\$0.0
Consolidated State Revolving Funds	\$2,170,215.0	\$2,200,000.0	\$2,062,000.0	\$1,700,000.0	-\$362,000.0
Brownfields Infrastructure Projects	\$0.0	\$0.0	\$120,500.0	\$120,500.0	\$0.0
<u>Special Needs Projects</u>					
Mexican Border	\$74,835.0	\$75,000.0	\$75,000.0	\$50,000.0	-\$25,000.0
Alaskan Native Villages	\$34,923.0	\$40,000.0	\$40,000.0	\$40,000.0	\$0.0
Bristol County, MA	\$1,995.6	\$0.0	\$0.0	\$0.0	\$0.0
Puerto Rico	\$0.0	\$0.0	\$0.0	\$8,000.0	\$8,000.0
South Dakota Home Stake Mine	\$0.0	\$0.0	\$8,000.0	\$0.0	-\$8,000.0
Total Special Needs Projects	\$111,753.6	\$115,000.0	\$123,000.0	\$98,000.0	-\$25,000.0
Congressional Projects	\$353,590.5	\$343,900.0	\$0.0	\$0.0	\$0.0
TOTAL- INFRASTRUCTURE ASSISTANCE	\$2,635,559.1	\$2,658,900.0	\$2,305,500.0	\$1,918,500.0	-\$387,000.0
TOTAL STAG	\$3,641,341.5	\$3,738,276.0	\$3,463,776.0	\$3,121,200.0	-\$342,576.0

CATEGORICAL GRANTS PROGRAM (STAG)
(Dollars in Millions)



In 2004, the President's Budget requests a total of \$1,202.7 million for 24 "categorical" program grants for state and Tribal governments. This is an increase of \$44.4 million over 2003. EPA will continue to pursue its strategy of building and supporting state, local and Tribal capacity to implement, operate, and enforce the Nation's environmental laws. Most environmental laws envision establishment of a decentralized nationwide structure to protect public health and the environment. In this way, environmental goals will ultimately be achieved through the actions, programs, and commitments of state, Tribal and local governments, organizations and citizens.

In 2004, EPA will continue to offer flexibility to state and Tribal governments to manage their environmental programs as well as provide technical and financial assistance to achieve mutual environmental goals. First, EPA and its state and Tribal partners will continue implementing the National Environmental Performance Partnership System (NEPPS). NEPPS is designed to allow states more flexibility to operate their programs, while increasing emphasis on measuring and reporting environmental improvements. Second, Performance Partnership Grants (PPGs) will continue to allow states and tribes funding flexibility to combine categorical program grants to address environmental priorities.

HIGHLIGHTS:

Air State and Local Assistance

In 2004, the President's Budget requests \$247.8 million for Air State and Local Assistance grants to support state, local, and Tribal air programs as well as radon programs. This

is an increase of \$7.0 million over 2003 request levels. This increase will be dedicated to expanding the air toxics monitoring network.

Enforcement State Grants

In 2004, the President's Budget includes \$27.3 million to build environmental partnerships with states and tribes and to strengthen their ability to address environmental and public health threats. The enforcement state grants request consists of \$19.9 million for Pesticides Enforcement, \$5.15 million for Toxic Substances Enforcement Grants, and \$2.25 million for Sector Grants. State and Tribal enforcement grants will be awarded to assist in the implementation of compliance and enforcement provisions of the Toxic Substances Control Act (TSCA) and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). These grants support state and Tribal compliance activities to protect the environment from harmful chemicals and pesticides.

Under the Pesticides Enforcement Grant program, EPA provides resources to states and Indian tribes to conduct FIFRA compliance inspections and take appropriate enforcement actions and implement programs for farm worker protection. Under the Toxic Substances Compliance Grant program, states receive funding for compliance inspections of asbestos and polychlorinated biphenyls (PCBs) and for implementation of the state lead abatement enforcement program. The funds will complement other Federal program grants for building state capacity for lead abatement, and enhancing compliance with disclosure, certification and training requirements.

Exchange Network (aka National Environmental Information Exchange Network, NEIEN)

In 2004, the President's Budget requests \$25.0 million to continue a grant program, started in 2002, that will provide states and tribes assistance to develop the Exchange Network. This grant program will support state and Tribal efforts to complete necessary changes to their information management systems to facilitate participation, and enhance state information integration efforts. The Exchange Network will improve environmental decision making, improve data quality and accuracy, ensure security of sensitive data, and reduce the burden on those who provide and those who access information.

Brownfields State and Tribal Grants

In 2004, the President's Budget requests \$60.0 million, an increase of \$10.0 million over 2003, to continue the Brownfields grant program that provides assistance to states and tribes to develop and enhance their state and Tribal response programs. EPA believes that further enhancement of state and Tribal programs will complement efforts to address the assessment and cleanup of Brownfields properties.

Water Pollution Control (Clean Water Act Section 106) Grants

In 2004, the President's Budget requests \$200.4 million for Water Pollution Control grants, an increase of \$20.0 million over 2003. This increase will help states and Tribes fill

critical gaps in meeting their basic Clean Water Act responsibilities. The additional funding will support a mixture of activities, depending on individual states' needs, including water quality monitoring and assessment, standards development, Total Maximum Daily Load (TMDL) development, and National Pollutant Discharge Elimination System (NPDES) permitting.

Wetlands

In 2004, the President's Budget requests \$20.0 million for Wetlands Program Grants, an increase of \$5.0 million over 2003. Specifically, this increase will enhance states' efforts to protect wetlands and other waters no longer under protection due to a 2001 Supreme Court decision and help states and tribes assume more decision-making authority.

Public Water System Supervision Grants

In 2004, the President's Budget requests \$105.1 for Public Water System Supervision (PWSS) grants, an increase of \$12.0 million over 2003. This funding level will enhance state and Tribal capacity to assist drinking water systems in the implementation of high priority drinking water regulations, and to meet public health goals.

Indian General Assistance Program Grants

In 2004, the President's Budget requests \$62.5 million for the Indian General Assistance Program (GAP), an increase of \$5.0 million over 2003. This increase will help federally recognized tribes and inter-tribal consortia develop and assume environmental programs.

Homeland Security

In 2004, the President's Budget requests \$5.0 million for homeland security grants to support states' efforts to work with drinking water and wastewater systems to develop and enhance emergency operations plans; conduct training in the implementation of remedial plans in small systems; and, develop detection, monitoring and treatment technology to enhance drinking water and wastewater security.

Elimination of Tribal Cap on Non-Point Sources

In 2004, the President's Budget is proposing to eliminate the statutory one-third-of-one-percent cap on Clean Water Act Section 319 Nonpoint Source Pollution grants that may be awarded to tribes. Tribes applying for and receiving Section 319 grants have steadily increased from two in 1991 to over 70 in 2001. This proposal recognizes the increasing demand for resources to address Tribal nonpoint source program needs.

CATEGORIAL PROGRAM GRANTS (STAG)
by National Program and State Grant
(Dollars in Thousands)

Grant	FY2003 President's Budget	FY 2004 President's Budget	Difference
Air & Radiation			
✓ State and Local Assistance	\$221,540.1	\$228,550.0	\$7,009.9
✓ Tribal Assistance	\$11,044.5	\$11,050.0	\$5.5
✓ Radon	\$8,139.9	\$8,150.0	\$10.1
	\$240,724.5	\$247,750.0	\$7,025.5
Water Quality			
✓ Pollution Control (Section 106)	\$180,376.9	\$200,400.0	\$20,023.1
✓ Beaches Protection	\$10,000.0	\$10,000.0	\$0.0
✓ Nonpoint Source (Section 319)	\$238,476.8	\$238,500.0	\$23.2
✓ Wetlands Program Development	\$14,967.0	\$20,000.0	\$5,033.0
✓ Water Quality Cooperative Agreements	\$18,958.2	\$19,000.0	\$41.8
✓ Targeted Watersheds	\$20,000.0	\$20,000.0	\$0.0
	\$482,778.9	\$507,900.0	\$25,121.1
Drinking Water			
✓ Public Water System Supervision (PWSS)	\$93,100.2	\$105,100.0	\$11,999.8
✓ Underground Injection Control (UIC)	\$10,950.9	\$11,000.0	\$49.1
✓ Homeland Security	\$5,000.0	\$5,000.0	\$0.0
	\$109,051.1	\$121,100.0	\$12,048.9
Hazardous Waste			
✓ H.W. Financial Assistance	\$106,363.6	\$106,400.0	\$36.4
✓ Brownfields	\$50,000.0	\$60,000.0	\$10,000.0
✓ Underground Storage Tanks	\$11,918.4	\$11,950.0	\$31.6
	\$168,282.0	\$178,350.0	\$10,068.0
Pesticides & Toxics			
✓ Pesticides Program Implementation	\$13,085.5	\$13,100.0	\$14.5
✓ Lead	\$13,682.0	\$13,700.0	\$18.0
✓ Toxic Substances Compliance	\$5,138.8	\$5,150.0	\$11.2
Homeland Security	\$0.0	\$0.0	\$0.0
✓ Pesticides Enforcement	\$19,867.8	\$19,900.0	\$32.2
	\$51,774.1	\$51,850.0	\$75.9
Multimedia			
✓ Environmental Information	\$25,000.0	\$25,000.0	\$0.0
✓ Enforcement State Grants	\$15,000.0	\$0.0	-\$15,000.0
✓ Pollution Prevention	\$5,986.3	\$6,000.0	\$13.7
✓ Enforcement & Compliance Assurance	\$2,209.3	\$2,250.0	\$40.7
✓ Indian General Assistance Program	\$57,469.7	\$62,500.0	\$5,030.3
	\$105,665.3	\$95,750.0	-\$9,915.3
TOTALS	\$1,158,276.0	\$1,202,700.0	\$44,424.1

FY 2004 STAG CATEGORICAL PROGRAM GRANTS
Statutory Authority and Eligible Uses
(Dollars in Thousands)

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2003 Request	FY 2004 Goal/ Objective	FY 2004 Request
Air Resource Assistance	Clean Air Act, §103	Air pollution control agencies as defined in section 302(b) of the CAA	S/L monitoring and data collection activities in support of the establishment of a PM _{2.5} monitoring network and associated program costs.	\$42,500.0	Goal 1, Obj. 1	\$42,500.0
Air Resource Assistance	Clean Air Act, §103	Multi-jurisdictional organizations (non-profit organizations whose boards of directors or membership is made up of CAA section 302(b) agency officers and Tribal representatives and whose mission is to support the continuing environmental programs of the states)	Coordinating or facilitating a multi-jurisdictional approach to addressing regional haze.	\$10,000.0	Goal 1, Obj. 1	\$10,000.0

FY 2004 STAG CATEGORICAL PROGRAM GRANTS
Statutory Authority and Eligible Uses
(Dollars in Thousands)

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2003 Request	FY 2004 Goal/ Objective	FY 2004 Request
Air Resource Assistance	Clean Air Act, Sections 103, 105, 106	Air pollution control agencies as defined in section 302(b) of the CAA; Multi-jurisdictional organizations (non-profit organizations whose boards of directors or membership is made up of CAA section 302(b) agency officers and whose mission is to support the continuing environmental programs of the states); Interstate air quality control region designated pursuant to section 107 of the CAA or of implementing section 176A, or section 184 NOTE: only the Ozone Transport Commission is eligible as of 2/1/99	Carrying out the traditional prevention and control programs required by the CAA and associated program support costs; Coordinating or facilitating a multi-jurisdictional approach to carrying out the traditional prevention and control programs required by the CAA; Supporting training for CAA section 302(b) air pollution control agency staff; Coordinating or facilitating a multi-jurisdictional approach to control interstate air pollution	\$169,040.1	Goal 1, All Obj's.	\$176,050.0

FY 2004 STAG CATEGORICAL PROGRAM GRANTS
Statutory Authority and Eligible Uses
(Dollars in Thousands)

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2003 Request	FY 2004 Goal/ Objective	FY 2004 Request
Air Tribal Assistance	Clean Air Act, Sections 103 and 105; TCA in annual Appropriations Acts	Tribes; Intertribal Consortia; State/ Tribal college or university	Conducting air quality assessment activities to determine a tribe's need to develop a CAA program; Carrying out the traditional prevention and control programs required by the CAA and associated program costs; Supporting training for CAA for federally recognized tribes	\$11,044.5	Goal 1, Obj. 1 Obj. 2	\$11,050.0
Radon	Toxic Substances Control Act, Sections 10 and 306; TCA in annual Appropriations Acts.	State Agencies, Tribes, Intertribal Consortia	Assist in the development and implementation of programs for the assessment and mitigation of radon	\$8,139.9	Goal 4, Obj. 4	\$8,150.0
Water Pollution Control Agency Resource Supplementation	FWPCA, as amended, §106; TCA in annual Appropriations Acts.	States, Tribes and Intertribal Consortia, and Interstate Agencies	Develop and carry out surface and ground water pollution control programs, including NPDES permits, TMDL's, WQ standards, monitoring, and NPS control activities.	\$180,376.9	Goal 2, Obj. 2	\$200,400.0

FY 2004 STAG CATEGORICAL PROGRAM GRANTS
Statutory Authority and Eligible Uses
(Dollars in Thousands)

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2003 Request	FY 2004 Goal/ Objective	FY 2004 Request
Nonpoint Source (NPS)	FWPCA, as amended, § 319(h); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	Implement EPA-approved State and Tribal nonpoint source management programs and fund priority projects as selected by the State.	\$238,476.8	Goal 2, Obj. 3	\$238,500.0
Wetlands Program Development	FWPCA, as amended, § 104 (b) (3); TCA in annual Appropriations Acts.	States, Local Governments, Tribes, Interstate Organizations, Intertribal Consortia, and Non-Profit Organizations	To develop new wetland programs or enhance existing programs for the protection, management and restoration of wetland resources.	\$14,967.0	Goal 2, Obj. 2	\$20,000.0
Water Quality Cooperative Agreements	FWPCA, as amended, § 104(b) (3); TCA in annual Appropriations Acts.	States, Local Governments, Tribes, Non-Profit Organizations, Intertribal Consortia, and Interstate Organizations	Creation of unique and innovative approaches to pollution control and prevention requirements associated with wet weather activities, AFOs, TMDLs, source water protection, and watersheds.	\$18,958.2	Goal 2, Obj. 2	\$19,000.0
Targeted Watershed Grants	FWPCA, as amended, § 104 (b)(3); TCA in annual Appropriations Act	States, Local Governments, Tribes, Interstate Organizations, Intertribal Consortia, and Non-Profit Organizations	Assistance for up to 20 watersheds to expand and improve existing watershed protection efforts.	\$20,000.0	Goal 2, Obj. 2	\$20,000.0

FY 2004 STAG CATEGORICAL PROGRAM GRANTS
Statutory Authority and Eligible Uses
(Dollars in Thousands)

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2003 Request	FY 2004 Goal/ Objective	FY 2004 Request
Public Water System Supervision (PWSS)	Safe Drinking Water Act, §1443(a); TCA in annual Appropriations Acts.	States, Tribes, and Intertribal Consortia	Assistance to implement and enforce National Primary Drinking Water Regulations to ensure the safety of the Nation's drinking water resources and to protect public health.	\$93,100.2	Goal 2, Obj. 1	\$105,100.0
Public Water System Supervision (PWSS) - Homeland Security	Safe Drinking Water Act, §1443(a); TCA in annual Appropriations Acts.	States, Tribes, and Intertribal Consortia	Water security coordinators to work with EPA and drinking water utilities in assessing drinking water safety.	\$5,000.0	Goal 2, Obj. 1	\$5,000.0
Underground Injection Control [UIC]	Safe Drinking Water Act, § 1443(b); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	Implement and enforce regulations that protect underground sources of drinking water by controlling Class I-V underground injection wells.	\$10,950.9	Goal 2, Obj. 1	\$11,000.0
Beaches Grants	Beaches Environmental Assessment and Coastal Health Act of 2000; TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia, Local Governments	Develop and implement programs for monitoring and notification of conditions for coastal recreation waters adjacent to beaches or similar points of access that are used by the public.	\$10,000.0	Goal 2, Obj. 1	\$10,000.0

FY 2004 STAG CATEGORICAL PROGRAM GRANTS
Statutory Authority and Eligible Uses
(Dollars in Thousands)

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2003 Request	FY 2004 Goal/ Objective	FY 2004 Request
Hazardous Waste Financial Assistance	Resource Conservation Recovery Act, § 3011; FY 1999 Appropriations Act (PL 105-276); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	Development & Implementation of Hazardous Waste Programs	\$106,363.6	Goal 4, Obj. 5 Goal 5, Obj. 1, Obj. 2 Goal 9, Obj. 1	\$106,400.0
Brownfields	Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, Section 128	States, Tribes, Intertribal Consortia	Build and support Brownfields programs which will assess contaminated properties, oversee private party cleanups, provide cleanup support through low interest loans, and provide certainty for liability related issues.	\$50,000.0	Goal 5, Obj. 1	\$60,000.0
Underground Storage Tanks [UST]	Resource Conservation Recovery Act Sections 8001 and 2007(f) and FY 1999 Appropriations Act (PL 105-276); TCA in annual Appropriations Acts.	State, Tribes and Intertribal Consortia	Demonstration Grants, Surveys and Training; Develop & implement UST program	\$11,918.4	Goal 5, Obj. 2	\$11,950.0

FY 2004 STAG CATEGORICAL PROGRAM GRANTS
Statutory Authority and Eligible Uses
(Dollars in Thousands)

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2003 Request	FY 2004 Goal/ Objective	FY 2004 Request
Pesticides Program Implementation	The Federal Insecticide, Fungicide, and Rodenticide Act § 20 & 23; the FY 1999 Appropriations Act (PL 105-276); FY 2000 Appropriations Act (P.L. 106-74); TCA in annual Appropriations Acts.	States, Tribes and Intertribal Consortia	Assist states and tribes to develop and implement pesticide programs, including programs that protect workers, ground-water, and endangered species from pesticide risks, and other pesticide management programs designated by the Administrator; develop and implement programs for certification and training of pesticide applicators; develop Integrated Pesticides Management (IPM) programs; support pesticides education, outreach, and sampling efforts for tribes.	\$13,085.5	Goal 4, Obj. 1	\$13,100.0

FY 2004 STAG CATEGORICAL PROGRAM GRANTS
Statutory Authority and Eligible Uses
(Dollars in Thousands)

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2003 Request	FY 2004 Goal/ Objective	FY 2004 Request
Lead	Toxic Substances Control Act, § 404 (g); TSCA 10; FY2000 Appropriations Act (P.L. 106-74); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	To support and assist states and tribes to develop and carry out authorized state lead abatement certification, training and accreditation programs; and to assist tribes in development of lead programs.	\$13,682.0	Goal 4, Obj. 2	\$13,700.0
Toxic Substances Compliance Monitoring**	Toxic Substances Control Act, §28(a) and 404 (g); TCA in annual Appropriations Acts.	States, Territories, Tribes, Intertribal Consortia	Assist in developing and implementing toxic substances enforcement programs for PCBs, asbestos, and lead-based paint	\$5,138.8	Goal 9, Obj. 1	\$5,150.0
Pesticide Enforcement	FIFRA § 23(a) (1); FY 2000 Appropriations Act (P.L. 106-74); TCA in annual Appropriations Acts.	States, Territories, Tribes, Intertribal Consortia	Assist in implementing cooperative pesticide enforcement programs	\$19,867.8	Goal 9, Obj. 1	\$19,900.0

FY 2004 STAG CATEGORICAL PROGRAM GRANTS
Statutory Authority and Eligible Uses
(Dollars in Thousands)

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2003 Request	FY 2004 Goal/ Objective	FY 2004 Request
National Environmental Information Exchange Network (NEIEN, aka "the Exchange Network")	As appropriate, Clean Air Act, Sec. 103; Clean Water Act, Sec. 104; Solid Waste Disposal Act, Sec. 8001; FIFRA, Sec 20; TSCA, Sec. 10 and 28; Marine Protection, Research and Sanctuaries Act, Sec. 203; Safe Drinking Water Act, Sec. 1442; Indian Environmental General Assistance Program Act of 1992, as amended; FY 2000 Appropriations Act (P.L. 106-74); Pollution Prevention Act, Sec. 6605; FY 2002 Appropriations Act and FY 2003 Appropriations Acts.	States, tribes, interstate agencies, tribal consortium, and other agencies with related environmental information activities.	Assists states and others to better integrate environmental information systems, better enable data-sharing across programs, and improve access to information.	\$25,000.0	Goal 7 Obj. 1	\$25,000.0
Pollution Prevention	Pollution Prevention Act of 1990, §6605; TSCA 10; FY2000 Appropriations Act (P.L. 106-74); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	To assist state and tribal programs to promote the use of source reduction techniques by businesses and to promote other Pollution Prevention activities at the state and tribal levels.	\$5,986.3	Goal 4, Obj. 5	\$6,000.0

FY 2004 STAG CATEGORICAL PROGRAM GRANTS
Statutory Authority and Eligible Uses
(Dollars in Thousands)

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2003 Request	FY 2004 Goal/ Objective	FY 2004 Request
Enforcement & Compliance Assurance**	As appropriate, Clean Air Act, Sec. 103; Clean Water Act, Sec. 104; Solid Waste Disposal Act, Sec. 8001; FIFRA, Sec 20; TSCA, Sec. 10 and 28; Marine Protection, Research and Sanctuaries Act, Sec. 203; Safe Drinking Water Act, Sec. 1442; Indian Environmental General Assistance Program Act of 1992, as amended; FY 2000 Appropriations Act (P.L. 106-74); TCA in annual Appropriations Acts.	State, Territories, Tribes, Intertribal Consortia, Multi-jurisdictional Organizations	Assist in developing innovative sector-based, multi-media, or single-media approaches to enforcement and compliance assurance	\$2,209.3	Goal 9, Obj. 2	\$2,250.0
Multi-media Enforcement State Grants	FY 2003 President's Budget	States, Tribes, and other entities to be determined.	Media-specific and multi-media funding to states and tribes for compliance assurance activities including compliance assistance and incentives, inspections, and enforcement actions.	\$15,000.0	Goal 9, Obj. 1	\$0.0

FY 2004 STAG CATEGORICAL PROGRAM GRANTS
Statutory Authority and Eligible Uses
(Dollars in Thousands)

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2003 Request	FY 2004 Goal/ Objective	FY 2004 Request
Indian General Assistance Program	Indian Environmental General Assistance Program Act of 1992, as amended; TCA in annual Appropriations Acts.	Tribal Governments and Intertribal Consortia	Plan, develop and establish Tribal environmental protection programs.	\$57,469.7	Goal 4, Obj. 7	\$62,500.0

* The Recipients listed in this column reflect assumptions in the FY 2004 Budget Request in terms of expected and/or anticipated eligible recipients.

** In prior years these grants were displayed as Toxic Enforcement Grants. They are both part of the Toxics Enforcement Key Program [Goal 9, Objectives 1 and 2.]

INFRASTRUCTURE FINANCING
(Dollars in Millions)

	FY 2003 President's Budget	FY 2004 President's Budget
Infrastructure Financing		
Clean Water State Revolving Fund (CWSRF)	\$1,212.0	\$850.0
Drinking Water State Revolving Fund (DWSRF)	\$850.0	\$850.0
Mexican Border Projects	\$75.0	\$50.0
Alaska Native Villages	\$40.0	\$40.0
Targeted Projects - Puerto Rico	\$0.0	\$8.0
Targeted Projects - South Dakota Homestake Mine	\$8.0	\$0.0
Brownfields Environmental Projects	\$120.5	\$120.5
Total	\$2,305.5	\$1,918.5

Infrastructure Funds

The President's Budget requests a total of \$1,918.5 million in 2004 for EPA's Infrastructure programs, a decrease of \$387.0 million from 2003. Of the total infrastructure request, \$1,748.0 million will support EPA's Goal 2: Clean and Safe Water, \$120.5 million will support EPA's Goal 5: Better Waste Management and \$50.0 million will support EPA's Goal 6: Reduction of Global and Cross-border Environmental Risks. The \$387.0 million decrease is the net result of a \$362.0 million decrease to the Clean Water State Revolving Fund (CWSRF); a decrease of \$25.0 million for Mexican Border Projects; a decrease of \$8.0 million in Targeted Projects for the Homestake Mine; and an increase of \$8.0 million in Targeted Projects for drinking water in Puerto Rico.

Infrastructure funding under the State and Tribal Assistance Grants (STAG) appropriation provides financial assistance to states, municipalities and Tribal governments to fund a variety of drinking water, wastewater, and Brownfields infrastructure projects. These funds are essential to fulfill the Federal government's commitment to help our state, Tribal and local partners obtain adequate funding to construct the facilities required to comply with Federal environmental requirements and ensure public health and revitalize contaminated properties.

Providing STAG funds to capitalize State Revolving Fund (SRF) programs, EPA works in partnership with the states to provide low-cost loans to municipalities for infrastructure construction. As set-asides of the SRF programs, grants are available to Indian Tribes and Alaska Native Villages for drinking water and wastewater infrastructure needs based on national

priority lists. The Brownfields Environmental Program provides states, tribes, political subdivisions (including cities, towns, and counties) the necessary tools, information, and strategies for promoting a unified approach to environmental assessment cleanup, characterization, and redevelopment at sites contaminated with hazardous wastes and petroleum contaminants.

The resources requested in this budget will enable the Agency, in conjunction with EPA's state, local, and Tribal partners, to achieve several important goals for 2004. Some of these goals include:

- 92 percent of the population served by community water systems will receive drinking water meeting all health-based standards, up from 83% in 1994.
- Award 126 assessment grants under the Brownfields program, bringing the cumulative total grants awarded to 689 by the end of FY 2004 paving the way for productive reuse of these properties. This will bring the total number of sites assessed to 5,800 while leveraging a total of \$6.7 billion in cleanup and redevelopment funds since 1995. EPA's Brownfields program is complemented by efforts of the Department of Housing and Urban Development as well as tax incentive programs.

Goal 2: Enhancing Human Health through Clean and Safe Water

Capitalizing Clean Water and Drinking Water State Revolving Funds

The Clean Water and Drinking Water State Revolving Fund programs demonstrate a true partnership between states, localities and the Federal government. These programs provide Federal financial assistance to states, localities, and Tribal governments to protect the nation's water resources by providing funds for the construction of drinking water and wastewater treatment facilities. The state revolving funds are two important elements of the nation's substantial investment in sewage treatment and drinking water systems which provides Americans with significant benefits in the form of reduced water pollution and safe drinking water.

EPA will continue to capitalize the Clean Water State Revolving Fund (CWSRF). Through this program, the Federal government provides financial assistance for wastewater and other water projects, including nonpoint source, estuary, stormwater, and sewer overflow projects. Water infrastructure projects contribute to direct ecosystem improvements by lowering the amount of nutrients and toxic pollutants in all types of surface waters.

The President's Budget proposes to fund the CWSRF at \$850 million each year through 2011 and increase the revolving level by \$800 million to \$2.8 billion, a 40 percent increase over the existing \$2.0 billion goal. Because of the revolving nature of the program, funds invested in the SRF have a multiplier effect that generates far more purchasing power over 20 years than grants. As a result, this extended funding of \$4.4 billion is projected to close the \$21 billion gap between current capital funding levels and future water infrastructure capital needs estimated by EPA, assuming that spending increases at three percent real growth per year.

More than \$19 billion has already been provided to capitalize the CWSRF, over twice the original Clean Water Act authorized level of \$8.4 billion. Total CWSRF funding available for loans since 1987, reflecting loan repayments, state match dollars, and other funding sources, is approximately \$42.4 billion, of which more than \$38.7 billion has been provided to communities as financial assistance. As of July 2002, \$3.7 billion is being readied for loans.

The dramatic progress made in improving the quality of wastewater treatment since the 1970s is a national success. In 1972, only 84 million people were served by secondary or advanced wastewater treatment facilities. Today, 99 percent of community wastewater treatment plants, serving 181 million people, use secondary treatment or better.

The President's Budget request extends Federal support for the Drinking Water State Revolving Fund so it can revolve at \$1.2 billion per year, more than double the previous goal of \$500 million. To realize this increased revolving level, we are proposing \$850 million for FY 2004 to FY 2018. This proposal extends the commitment for the DWSRF well beyond the FY 2003 authorization period. Because of the revolving nature of the program, funds invested in the SRF have a multiplier effect that generates far more purchasing power over 20 years than grants. As a result, this extended funding is projected help close the \$45 billion gap between current capital funding levels and future water infrastructure capital needs estimated by EPA, assuming that spending increases at three percent real growth per year. Through the DWSRF program, states will provide loans to finance improvements to community water systems so that they can achieve compliance with the mandates of the Safe Drinking Water Act and continue to protect public health. Some non-state recipients, such as the District of Columbia and the Tribes, will receive their DWSRF allocations in the form of grants.

The DWSRF will be self-sustaining in the long run and will help offset the costs of ensuring safe drinking water supplies and assisting small communities in meeting their responsibilities. Through FY 2002, Congress has appropriated \$5.3 billion for the DWSRF program. Through June 30, 2002, States had received \$4.4 billion in capitalization grants, which when combined with the state match, bond proceeds and other funds provided \$6.7 billion in total cumulative funds available for loans. Through June 30, 2002, States had made more than 2,400 loans totaling \$5.1 billion and \$1.6 billion remained available for loans.

State Flexibility between SRFs

The Agency requests continuation of authority provided in the 1996 Safe Drinking Water Act (SDWA) Amendments which allows states to transfer an amount equal to 33 percent of their DWSRF grants to their CWSRF programs, or an equivalent amount from their CWSRF program to their DWSRF program. The transfer provision gives states flexibility to address the most critical demands in either program at a given time. The statutory transfer provision expired September 30, 2002.

Set-Asides for Tribes

To improve public health and water quality in Indian Country, the Agency proposes to continue the 1 1/2% set-aside of the CWSRF for wastewater grants to tribes as provided in the

Agency's 2002 appropriation. More than 70,000 homes in Indian country have inadequate or nonexistent wastewater treatment. EPA and the Indian Health Service estimate that Tribal wastewater infrastructure needs exceed \$650.0 million.

Supporting Alaska Native Villages

The President's Budget requests \$40.0 million for Alaska native villages for the construction of wastewater and drinking water facilities to address serious sanitation problems. EPA will continue to work with the Department of Health and Human Services' Indian Health Service, the State of Alaska, and local communities to provide needed financial and technical assistance.

Targeted Projects

The President's Budget requests \$8 million for the design of upgrades to Metropolitan's Sergio Cuevas treatment plant in San Juan, Puerto Rico. When all upgrades are complete, EPA estimates that about 1.4 million people will enjoy safer, cleaner drinking water.

Goal 5: Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response

Brownfields Environmental Projects

The President's Budget requests a total of \$120.5 million for brownfields environmental projects. EPA will award grants for assessment activities, cleanup, and Brownfields cleanup revolving loan funds (BCRLF). Additionally, this includes cleanup of sites contaminated by petroleum or petroleum products and environmental job training grants.

Goal 6: Reducing Cross-border Environmental Risks – U.S./Mexico Border

The President's Budget requests a total of \$50.0 million for water infrastructure projects along the U.S./Mexico Border. The goal of this program is to reduce environmental and human health risks along the U.S./Mexico Border. The communities along both sides of the Border are facing unusual human health and environmental threats because of the lack of adequate wastewater and drinking water facilities. EPA's U.S./Mexico Border program provides funds to support the planning, design and construction of high priority water and wastewater treatment projects along the U.S./Mexico Border. The Agency's goal is to have a cumulative total of 9,900 people in the Mexico border area protected from health risks because of adequate water and wastewater sanitation systems funded.

WORKING CAPITAL FUND

In FY 2004, the Agency begins its eighth year of operation of the Working Capital Fund (WCF). It is a revolving fund authorized by law to finance a cycle of operations, where the costs of goods and services provided are charged to the users on a fee-for-service basis. The funds received are available without fiscal year limitation, to continue operations and to replace capital equipment. EPA's WCF was implemented under the authority of Section 403 of the Government Management Reform Act of 1994 and EPA's FY 1997 Appropriations Act. Permanent WCF authority was contained in the Agency's FY 1998 Appropriations Act.

The Chief Financial Officer and the Office of the Comptroller initiated the WCF in FY 1997 as part of their effort to: (1) be accountable to Agency offices, the Office of Management and Budget, and the Congress; (2) increase the efficiency of the administrative services provided to program offices; and (3) increase customer service and responsiveness. The Agency has a WCF Board which provides policy and planning oversight and advises the CFO regarding the WCF financial position. The Board, chaired by the Comptroller, is composed of eighteen permanent members from the program offices and the regional offices.

Two Agency Activities begun in FY 1997 will continue into FY 2004. These are the Agency's data processing and telecommunications operations, managed by the Office of Technology Operations and Planning (OTOP), and Agency postage costs, managed by the Office of Administration. The Agency's FY 2004 budget request includes resources for these two Activities in each National Program Manager's submission, totaling approximately \$132.0 million. These estimated resources may be increased to incorporate program office's additional service needs during the operating year. To the extent that these increases are subject to Congressional reprogramming notifications, the Agency will comply with all applicable requirements.

MAJOR MANAGEMENT CHALLENGES

EPA senior managers work diligently to address the complex management challenges the Agency must meet to achieve program results, maintain integrity and strengthen the public's confidence in the Agency. The President's Management Agenda¹, an initiative to improve management, performance, and accountability government-wide, has placed additional emphasis on effective program management.

In FY 2002 the Agency accelerated efforts to address its most serious management problems and corrected all four of its material weaknesses as well as a number of its other management challenges—deficiencies in program policies, guidance, or procedures that might impair the Agency's ability to achieve its mission. EPA's record in correcting its management challenges has steadily improved over the past decade, and, for the first time in the 20 year history of the Integrity Act, EPA has no material weaknesses. The progress in correcting weaknesses and addressing challenges exemplifies EPA's strong commitment to improving integrity and accountability in all programs, organizations, and functions.

The Agency uses a system of internal program reviews, independent reviews, and audits by the General Accounting Office (GAO) and EPA's Office of the Inspector General (OIG); program evaluations; and performance measurements to ensure that program activities are effectively carried out in accordance with applicable laws and sound management policy, and provide reasonable assurance that Agency resources are protected against fraud, waste, abuse, and mismanagement.

In identifying and monitoring management challenges, EPA considers government-wide high-risk areas identified by GAO, and management challenges identified by the Office of Management and Budget (OMB), GAO, OIG or EPA itself. Following are brief descriptions and summaries on efforts underway to address the management challenges facing the Agency. The Agency will continue to use the tools available under GPRA and other management statutes to assist in addressing these issues.

Protecting Critical Infrastructure from Non-traditional Attacks

EPA has the responsibility of helping to assess the security the nation's drinking and wastewater infrastructure and responding and recovering from acts of biological, chemical, certain radiological and other terrorist's attacks. To achieve its goals, the Agency needs to apply technical, organizational, resource, training, and communication assets to complex issues with unprecedented dispatch. Success requires simultaneous attention to questions of threat, capabilities and deficiencies, preparedness, management and oversight, and efficiency and effectiveness. OIG identified this issue as a management challenge in FY 2002.

EPA has taken measures to respond to terrorist incidents and is taking steps to better prepare for, and respond to, future incidents based on lessons learned. The Agency carried out its mission and accomplished a remarkable achievement in responding to three national incidents during the same time period in response to the attacks on the World Trade Center and the Pentagon, and the cleanup of anthrax contamination in the Capitol Complex and other facilities

around the country. One of these tasks, cleaning up anthrax contamination from the Capitol Hill Complex, defied the customary thinking that the cleanup of an anthrax-contaminated building was impossible.

The July 2002 *National Strategy for Homeland Security*ⁱⁱ designated EPA as the lead agency for protecting critical drinking and wastewater infrastructure. The November 2002 Reorganization Plan for the Department of Homeland Security also identifies some areas where EPA will coordinate efforts with the Department.

In testimony before the Senate Committee on Environment and Public Works on September 24, 2002ⁱⁱⁱ, the EPA Administrator described in detail the aggressive and effective actions EPA has taken to build on existing strengths to meet new security challenges. EPA worked to define its role in homeland security and to make decisions regarding where the Agency should allocate existing and new resources, authority, and personnel to ensure the safety of human health and the environment. The Agency conducted two major reviews of lessons learned, one relating to the incidents of September 11 and the other related to EPA's anthrax response. EPA used objective outside sources to conduct extensive interviews with Agency personnel, from front line staff to senior managers, to examine what EPA had learned from its response activities.

EPA chairs the interagency National Response Team (NRT), which has an excellent track record for federal-state coordination. In FY 2002 the Office of Homeland Security (OHS) asked the NRT to be an OHS work group providing interagency policy coordination assistance on terrorist incident preparedness and response. The NRT also completed anthrax and World Trade Center/Pentagon lessons learned documents for use by member agencies and developed anthrax cleanup technical assistance documents for use by planners and responders at all levels of government^{iv}.

EPA, in consultation with the drinking water and wastewater industries, developed vulnerability assessment tools, funded vulnerability assessments at the nation's 424 largest drinking water facilities serving nearly half the population, sped up establishment of a secure Information Sharing and Analysis Center for the water sector, provided threat information to utilities as required under Public Law 107-188^v and initiated high priority water security research projects. The Agency developed EPA's Threat Warning System and Protective Measures, including facility protective measures, emergency preparedness and response activities, and protection of facilities in the water sectors and chemical industry. EPA implemented this system on September 10, 2002, and is now revising the system in response to lessons learned from this first implementation. Implementation has included providing alerts and protective information to members of the water sectors and chemical industry.

The lessons learned reports^{vi} have generally concluded that EPA responded successfully; however, it can do better. In October 2002, the Administrator announced EPA's Strategic Plan for Homeland Security^{vii}, which supports the President's *National Strategy for Homeland Security*^{viii} and the efforts to be undertaken by the new Department of Homeland Security. The plan serves as a blueprint on how to enhance EPA's ability to meet homeland security responsibilities. The activities and initiatives in EPA's plan will enhance the Agency's

capabilities to detect, prepare for, prevent, respond to, and recover from terrorist incidents. In turn, EPA will be able to provide improved information and knowledge to key response agencies and policy-makers, allowing them to make timelier and effective analytical and technological decisions to improve security, detect contamination, and respond to incidents. As the federal government continues to address the issue of protecting the nation, the plan will continue to be revised and improved. Some of the activities identified in the plan might eventually be carried out by the Department of Homeland Security or other agencies. The Federal Homeland Security Advisor commended EPA for its Homeland Security Strategic Plan, noting that it can serve as a model for other departments and agencies.

Working Relationship with the States^{ix}

The National Environmental Performance Partnership System (NEPPS) established EPA-state working partnerships to address complex environmental issues with scarce resources. One of the primary tools for implementing NEPPS, performance partnership grants (PPGs), allows states and tribes to combine multiple EPA grants into one. In implementing the NEPPS program, including PPGs, the following are required to fully integrate NEPPS principles: leadership providing a clear direction and expectations, training and guidance, and goals and related performance measures to monitor and measure progress on achieving better environmental results. GAO identified EPA-state relationships as a major management challenge in January 1999 and 2001 reports to Congress. OIG also identified EPA's relationships with states as a management challenge in FY 2000-2002.

EPA works closely with states, tribes, other federal agencies, and other stakeholders to protect public health and the environment. Under NEPPS, the Agency committed to long-term collaboration with state agencies to improve EPA and state management of national environmental programs. NEPPS is a framework to build a result-based management system, focus on joint planning and priority setting and use environmental indicators and outcome measures for accountability. Although EPA and states recognize that existing implementation approaches are no longer efficient and effective, they have not yet agreed on how states will have flexibility, while being accountable for environmental results. For several years, EPA and the states have been implementing NEPPS with mixed results. As a result of an on-going program evaluation conducted jointly with the states, EPA is developing an implementation plan that will address the implementation issues identified.

Through NEPPS, EPA is improving EPA-state partnerships by working with the states to establish priorities, improve performance measures, and promote results-based management under the Performance Partnership System. The Agency is also developing tools that state and EPA NEPPS negotiators can use to clarify the appropriate performance expectations. In addition EPA and the Environmental Council of the States (ECOS) have an active work group to address issues and remove barriers to effective implementation of the Performance Partnership System.

The Agency developed issue papers on performance partnerships, integrated NEPPS principles in its planning, budgeting, and accountability systems, and included NEPPS Core Performance Measures in EPA's Annual Report. EPA continued development of a NEPPS primer on policies and practices enhanced its website to provide historical information and best

management practices, organized a national training conference, and continued bi-annual reporting on the states' use and application of PPGs.^x

In FY 2003, EPA plans to meet with the states to identify national, state, and regional priorities, which will be incorporated into EPA's national strategic planning, budgeting, and accountability process in FY 2004. EPA and the states will review roles, responsibilities and resources to improve efficiency and environmental impact. The Agency will implement a communication strategy on the successes and benefits of the Performance Partnership System. The Agency will continue a joint annual evaluation of performance partnership agreements and review PPG Task Force recommendations on mitigating conflicts between performance partnership principles and categorical grants guidance. The Agency will also contract with an objective third party, such as the National Academy for Public Administration, to assess the U.S. environmental service delivery system, including NEPPS

Management of Biosolids

EPA needs to implement a national biosolids program and establish a strong enforcement program to meet the Clean Water Act requirements to reduce environmental risks and maximize the beneficial use of sewage sludge.^{xi} OIG identified this issue as a management challenge in FY 2002.

EPA continues to meet its statutory obligations under the Clean Water Act (CWA) pertaining to sewage sludge. Although there has been concern as to the adequacy of the sewage sludge rule, and there is a need for some additional scientific research in this area, the inclusive process EPA has launched will adequately address the concerns and needs. The Agency requested that the National Research Council (NRC) make a second evaluation of the biosolids program, specifically of the scientific basis supporting the CWA Part 503 rule.^{xiii} The second NRC report, issued in July 2002^{xiii}, concluded that there was no documented scientific evidence that EPA's Part 503 sewage sludge standards failed to protect public health. The NRC stated that additional scientific work is needed to reduce persistent uncertainty about the potential for adverse human health effects from exposure to biosolids that are applied to the land. The Agency has set into motion a process for developing a response to the NRC's recommendations and the OIG's concerns. As part of the process, the Agency will seek public comment on its proposed determination on whether to regulate additional pollutants in biosolids as required by § 405(d) (20) (C) of the CWA.^{xiv} The Agency is developing a draft Federal Register (FR) Notice seeking public comment and expects it to be published in early April 2003. Following receipt of comments and further analysis, EPA will publicly announce its plan in a final FR Notice in January 2004. This FR Notice will also include EPA's final decision on regulating additional pollutants under Part 503.

In addition to responding to the NRC report, the Agency will continue to communicate information on applying biosolids. The information will include a brief summary of additional research that is now being conducted to reduce public uncertainty, and that, if needed, will result in the modification of the biosolids regulation or land application practices. Although the Agency has not undertaken or completed all of the specific studies described in the preamble to Part 503, it has undertaken a variety of studies associated with biosolids recycling that it believes

to be very relevant today, and is undertaking new studies. In addition, studies by others outside the Agency have helped to resolve many of the issues of concern discussed in the preamble.

The Agency continues to maintain its position that land application of biosolids is an appropriate choice for communities, when conducted in compliance with EPA regulations. Given present scientific knowledge, EPA has based the allocation of resources to biosolids compliance and enforcement on the relatively low risks to public health and the environment posed by biosolids, which is treated sewage sludge. In contrast, the national priorities in EPA's water enforcement and compliance program focus on risks posed by untreated pollutants, including raw sewage, associated with storm water, sanitary sewer overflows, combined sewer overflows and concentrated animal feeding operations which involve the public's direct exposure to harmful pollutants. States have the flexibility and responsibility to address situations where compliance assistance and enforcement actions to address biosolids are appropriate and necessary. EPA has taken actions to address biosolids violations and will continue to take actions to address instances where biosolids pose an immediate endangerment to human health or the environment. EPA will reconsider resources devoted to biosolids if additional research and science demonstrate greater risk.

Lastly, EPA is continuing to work with States as it modernizes the Permit Compliance System (PCS) to allow for more effective program oversight. A separate workgroup (including both States and EPA) was devoted to the data needs for the biosolids program and held extensive discussions regarding the data needed to manage the biosolids program. Based on the recommendations of this workgroup, the PCS Executive Council decided to add data elements to PCS to improve tracking and oversight of the biosolids program, and design work is currently underway.

Reduce the Backlog of National Pollutant Discharge Elimination System (NPDES) Permits^{xv}

Based on Permit Compliance System (PCS) data in November 1998, 26 percent of permits for major facilities had not been reissued following expiration, and 48 percent of permits for minor facilities had not been reissued. In 1999, the Agency estimated that the backlog in EPA-issued major permits had tripled over the past 10 years; likewise, the backlog in state-issued permits had doubled over that time. Expired NPDES permits might not reflect the most recent applicable effluent guidelines, water quality standards, or Total Maximum Daily Loads posing a threat to the environment. Without timely issuance of high-quality permits necessary improvements in water quality could be delayed. EPA identified this issue as a material weakness in FY 1998, and because the materiality of the issue was addressed, reduced it to an FY 2002 Agency weakness. OIG identified it as a management challenge FY 1998–2002.

Since the Agency identified this weakness in 1998, it has achieved 56 percent of targeted reduction in the backlog of major point source permits and achieved 58 percent of targeted reduction in the backlog for minor point source permits. EPA's comprehensive strategy for improving the NPDES permit program^{xvi} has resulted in noteworthy progress, and it establishes a management control framework for continued improvement. EPA is deploying guidance and tools designed to help regions and states prioritize permits that have the greatest environmental

impact and to automate the permit writing process.^{xvii} EPA believes it has addressed the materiality of this issue and put the management controls in place for continued progress. EPA is supporting a number of efforts to strengthen the NPDES Program: (1) two pilot projects with states to develop systems to address permits on a watershed basis, (2) an EPA/state project to identify permit streamlining opportunities, (3) expanded use of general permits to address increases in the permitting universe, and (4) ongoing permit quality reviews.

Information System Security

EPA needs a centralized security program with strong oversight processes to adequately address risks and ensure that valuable information technology resources and environmental data are secure. EPA declared information systems security plans as a material weakness in FY 1997, revised the weakness in FY 2000 to be more comprehensive, and in FY 2002 reduced the weakness to agency level because the materiality of the weakness had been addressed. OIG identified EPA's information system security as a management challenge in FY 1997-2002, noting it as an FY 2002 tier two challenge. GAO identified it as a major management challenge in FY 2000-2001.

EPA has made substantial progress in keeping pace with the evolving challenges of information security. In FY 2002 the Agency developed and began implementing a comprehensive strategy to systematically address security-related deficiencies in accordance with the Government Information Security Reform Act.^{xviii} This strategy included initiating annual security risk assessments for Agency systems, and instituting regular monitoring and reporting of system owners' follow-up actions in response to the assessments. EPA has completed risk assessments for its critical applications and systems, and has implemented regular evaluations of its security network and data, network intrusion detection and monitoring controls, and formal security plan reviews. FY 2002 internal reviews show that EPA has an improved information security program that assesses, identifies, and mitigates risks to the Agency's data and systems.^{xix} Recent network penetration tests validated that controls successfully deter penetration attempts. To improve on this performance, the Agency plans to enhance its ability to monitor activities at the subnetwork level to ensure deeper protection and guard against possible unauthorized access or internal exploitation.

EPA plans to sustain improvements through consistent security control implementation, ongoing evaluation and regular testing to ensure that the policies and procedures are effective. The Agency's validation strategy^{xx} employs a variety of methods, processes, and mechanisms to ensure EPA's information security meets the criteria of the best industry practices and federal requirements. Validation methods include: (1) comprehensive risk assessments of major applications and general support systems using the security self-assessment methodology published by the National Institute of Standards and Technology^{xxi}, (2) implementation of central automated monitoring for assessing compliance with security standards, and (3) internal and external network penetration testing.

Information Resources Management (IRM) and Data Quality/Environmental and Performance Information Management

Consistent, complete, and current data are needed to support full and effective information sharing, environmental monitoring, and enforcement. If EPA and the states apply different data definitions or collect and input different data, the result can be reporting of inconsistent, incomplete, or obsolete data. EPA needs to continue developing and implementing its information management strategy to address Agency information management challenges such as data gaps. EPA declared IRM data management an Agency weakness in FY 1994 and expanded the scope of weakness in FY 2000. GAO identified this issue as a management challenge FY 1998-2002. OIG identified it as an FY 2002 management challenge, combining previous challenges on IRM and Data Quality.

EPA is working in partnership with the states to improve the management, comprehensiveness, consistency, reliability, and accuracy of its data. Better data management will reduce inefficiencies, and support better assessment of environmental results and Agency priority-setting to protect human health and the environment.

EPA has carried out a number of actions to improve data management practices. The Agency developed and approved six key environmental data standards prior to FY 2002^{xxii}, and in FY 2002 it completed one new data standard while initiating work on six additional standards. EPA is working with states and EPA system and program managers to implement these data standards in major environmental systems. The Agency maintained an Integrated Error Correction Process^{xxiii} and drafted a Data and Information Quality Strategic Plan to present recommendations for improving the quality and management of collected data. EPA completed guidance for the EPA web site and is developing guidance on administrative control designations. EPA is also revising its IRM Strategic Plan and developing an Enterprise Architecture to address the integration and management of environmental data. Other corrective actions under way include developing a Strategic Information Plan for addressing data gaps, developing an Agency data architecture, developing and putting in place appropriate data management policies and procedures, and improving data collection processes through the use of the Central Data Exchange. As part of the Agency's Environmental Indicators Initiative, EPA also plans to release for public dialogue this year a draft report on the environment that uses environmental indicators to describe the status of the nation's environmental conditions and human health concerns. The public dialogue on the report will include discussions on the data and research needed to further develop environmental indicators. The Agency will continue efforts to identify data needed to manage programs and work with partners to provide timely, accurate, and consistent data.

Employee Competencies/Human Capital

To place the right people with the appropriate skills where they are needed, EPA must make human capital management an integral part of strategic and programmatic approaches to accomplishing its mission. The Agency needs to determine how human capital actions can best help achieve goals, identify milestones for key actions and establish results-oriented performance measures for human capital initiatives. With its Human Capital Strategic Plan in place, the

Agency has a blueprint for the initial and longer-term steps needed to begin addressing this weakness.^{xxiv} EPA declared this issue an Agency weakness FY 2000. OIG identified employee competencies as a major management challenge FY 1998–2002.

EPA has made significant progress toward addressing this weakness and meeting the objectives of the President's Management Agenda initiative on Strategic Management of Human Capital. On-going efforts include aligning the Agency's human capital planning activities with strategic planning and budgeting processes, as well as continuing to implement EPA's Human Capital Strategic Plan. The Agency is developing a Workforce Planning System that will link competencies to mission needs along core business lines. EPA's Workforce Development Strategy (WDS) is a comprehensive program that focuses on training and development at all levels of the organization. As part of the WDS, the Agency developed and implemented a number of training programs: New Skills/New Options Program for administrative staff with electronic learning accounts available to eligible employees, the Mid-Level Development Program which introduces the SES core competencies to most EPA employees, and a management development program that includes supervisory and management training. In addition, EPA selected 51 participants for an SES Candidate Development Program. The Agency has established goal teams to set appropriate baselines to track advances in measuring results and programmatic benefits. The Agency is also working toward better alignment of its human capital strategy with annual performance goals/measures, strategic sub-objectives, and Agency activities. This effort will help the Agency develop human capital measures, set targets for environmental and programmatic outcomes, and track its costs and economic impacts. EPA also has made its SES Mobility Program part of regular agency operations, allowing senior managers to broaden their skill sets.

Improved Management of Assistance Agreements

EPA needs to improve overall grants management by implementing a competitive award policy and process, and by improving prioritization, oversight, and enforcement procedures. EPA needs to address problems repeatedly identified in audit reports concerning EPA's use of assistance agreements to accomplish its mission. In FY 1996, EPA declared a material weakness on grants closeout and oversight of assistance agreements. The weakness was reduced to Agency-level in FY 1999 and closed in FY 2000. EPA declared improved management of assistance agreements an Agency weakness in FY 2001. OMB and OIG identified the issue as a candidate material weakness in FY 2002. OIG identified is as a management challenge FY 2000-2002.

In FY 2002 the Agency made significant progress in strengthening grants management. OMB recognized this progress in its most recent Executive Branch Scorecard.^{xxv} A major premise underlying the OIG's recommendation and OMB's concerns was the absence of a policy for competing discretionary grant funds. EPA has squarely addressed that issue by developing a new grant competition policy which went into effect October 1, 2002.

EPA also continues to make progress in improving post-award management, as evidenced by the 2002 post-award monitoring plans which included baseline reviews of grants and detailed desk top or on-site reviews of five percent to ten percent of all active grants, the

corrective actions taken by headquarters and regional offices in response to validation reviews, and the development of a new consolidated post-award monitoring policy.^{xxvi}

EPA's strategies to improve grants management are solidly based on the risk involved. Each fiscal year, EPA awards approximately \$3 billion in grants to support the environmental programs of state and local governments.^{xxvii} These grants constitute more than 87 percent of the grant funds awarded by EPA annually. The concerns raised by the OIG do not demonstrate systemic mismanagement of these funds. This means that the primary area of risk involves other categories of grants that receive relatively small amounts of money (e.g., grants to nonprofit organizations, which receive about 6 percent of EPA's grant dollars each fiscal year). EPA is appropriately managing that risk by making cost-effective improvements to its already extensive set of management controls, including initiatives on strengthening the competitive process, post-award monitoring, procurement oversight and environmental results; recipient training and technical assistance, and, most important, strategic planning.

Linking Mission and Management

EPA works with its regional offices and state and federal partners to develop appropriate outcome measures and accounting systems that track environmental and human health results across the Agency's goals. This information must then become an integral part of senior management's decision making process. OIG identified this issue as an FY 2002 management challenge, combining FY 2001 management challenges on accountability and managerial accounting.

EPA has long focused on improving the way it manages for results and uses cost and performance information in decision making. The Agency has made substantial progress and achieved the following results in FY 2002: (1) an increased focus on performance and results as key criteria for developing EPA's FY 2004 budget, (2) the Administrator's decision to adopt fewer, more outcome-oriented goals in EPA's revised Strategic Plan, and (3) successful efforts to establish Business Objects as the Agency's standard financial reporting tool and expand the Financial Data Warehouse to make more information available to managers. EPA has been recognized for its achievements in integrating budget and performance.^{xxviii} OIG has identified important improvement opportunities, and in FY 2003 EPA expects to build on progress made as it completes the revision of its Strategic Plan, implements the recommendations of the Managing for Improved Results Steering Group, and adopts business intelligence tools Agency-wide. In FY 2003, EPA will continue to enhance its cost accounting capabilities to strengthen the linkages between resources and performance in Agency program offices.

Innovative Regulatory Programs

EPA needs the flexibility to use innovative approaches to address complex and intractable environmental problems that warrant new and more cost-effective approaches. In the absence of specific legislative changes that would provide the authority for EPA to allow states and others to use innovative approaches, the Agency needs to closely monitor the new approaches to ensure they are more effective than the traditional approaches. GAO identified these issues as an FY 2002 major management challenge.

EPA continues initiatives to fully support and manage innovations and address concerns about flexibility. In 2002, EPA released a new innovation strategy that had resulted from an intensive 9-month task force review of EPA's innovation efforts^{xxix}. The strategy's goals are being implemented through program and regional commitments to specific actions that are being tracked by the Agency's Innovation Action Council. EPA, states, localities, industry and nongovernmental organizations have been developing, testing and implementing innovative approaches for more than a decade. These efforts have produced a number of successful innovations, such as the Brownfields revitalization program.

As is always the case when new approaches or alternative ways are tried, some projects did not meet expectations. EPA has taken significant, concrete steps to establish Agency-wide controls that result in better priority setting, planning and monitoring of results. The Agency has several ongoing efforts to evaluate and learn from particular innovations that represent the best candidates for broader application. EPA has nearly completed an effort to evaluate pilot projects that seek to streamline pollution prevention considerations and infuse them into air permits, and the Agency is beginning to evaluate several innovative approaches to manage hazardous wastes in university labs. The new State Innovation Grants program requires that states receiving grants develop measures and performance outcomes over the lifetime of their projects.^{xxx} The criteria for successful grant proposals include establishing goals for innovation and indicators to measure progress toward meeting these goals. Projects must have clear objectives, requirements and performance indicators in order to allow EPA and the public to evaluate the success of the project. State proposals include baseline and final outcome measures and a commitment to track and measure results.

Notes

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ⁱⁱⁱ U.S. EPA, Office of Congressional and Intergovernmental Relations, *Congressional Hearings Held before the House and Senate Committee of EPA Officials—Status Report for 2002* (September 24, 2002). Available at <http://www.epa.gov/ocir/hearings/testimony/092402ctw.PDF>

^{iv} U.S. EPA internal reports: Observations and Lessons Learned from Anthrax Responses (February 2002); Observations and Lessons Learned from the World Trade Center and Pentagon Terrorist Attacks (February 2002), and Technical Assistance Documents for Anthrax Response (September 2002).

^v Public Health Security and Bioterrorism Preparedness and Response Act of 2002.

^{vi} U.S. EPA internal report: Lessons Learned in the Aftermath of September 11, 2001 (February 2002).

^{vii} U.S. EPA, EPA Newsroom, EPA Announces Homeland Security Strategic Plan, One of Many Efforts to Ensure Agency's Ability to Protect, Respond and Recover, news release (October 2, 2002). Available at http://www.epa.gov/epahome/headline_100202.htm

^{viii} Office of the President, Office of Homeland Security, Available at: <http://www.whitehouse.gov/homeland/book/index.html>.

^{ix} U.S. EPA, Office of Congressional and Intergovernmental Relations, Performance Partnership. Available at <http://www.epa.gov/ocirpage/nepps/index.htm>.

^x U.S. EPA, Office of Congressional and Intergovernmental Relations, Performance Partnership Grants. Available at http://www.epa.gov/ocirpage/nepps/pp_grants.htm

^{xi} 11. Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977. Available at <http://www.epa.gov/r5water/cwa.htm>.

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- ^{xv} U.S. EPA, Office of Water, *National Pollutant Discharge Elimination System (NPDES), Backlog Reduction*. Available at <http://cfpub.epa.gov/npdes/permitissuance/backlog.cfm>.
- ^{xvi} U.S. EPA, Office of Water, *Interim Framework to Ensure Issuance of Timely and High Quality NPDES Permits*. Available at http://cfpub.epa.gov/npdes/home.cfm?program_id=45.
- ^{xvii} Ibid.
- ^{xviii} FY 2001 Defense Authorization Act, Public Law 106-398, Title X, Subtitle G.
- ^{xix} U.S. EPA internal documents, security-sensitive. Not available to public.
- ^{xx} U.S. EPA, Office of Environmental Information, FY 2002 Assurance Letter (October 2002).
- ^{xxi} National Institute of Standards and Technology Computer Security Resources Center web site at <http://csrc.nist.gov/publications/nistpubs/index.html>.
- ^{xxii} U.S. EPA, Environmental Data Registry. Available at <http://www.epa.gov/edr/>.
- ^{xxiii} U.S. EPA, Central Data Exchange. Available at <http://www.epa.gov/cdx/>.
- ^{xxiv} U.S. EPA, *Investing in Our People: EPA's Strategy for Human Capital 2001 through 2003*.
- ^{xxv} Office of Management and Budget, Executive Office of the President, *Executive Branch Management Scorecard. Agency Scorecard: U.S. EPA* (September 30, 2002). Available at http://www.whitehouse.gov/omb/budintegration/scorecards/epa_scorecard.html.
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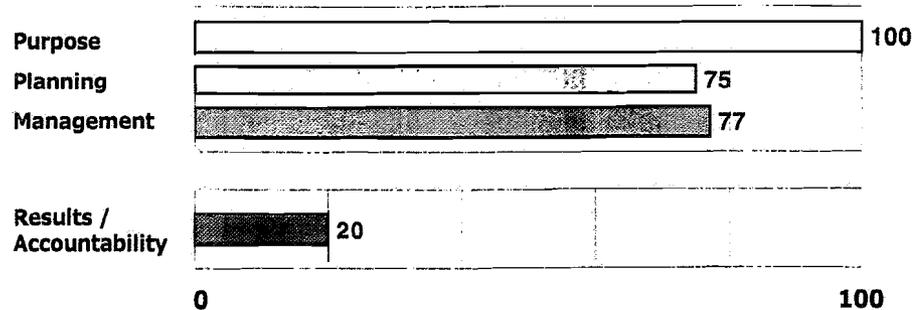
PROGRAM ASSESSMENT RATING TOOL (PART) SCHEDULE FOR FY 2005

- RCRA Corrective Action and State Grants
- Clean Water and Drinking Water Assistance Grants for Mexican Border/Alaskan Native Villages/Puerto Rico, CWSRF Indian Set Aside Program
- Water Research
- Climate Change Programs
- Indoor Air
- PM Implementation and Research
- Brownfields
- Pollution Prevention Research
- High Production Volume Chemicals Challenge Program

Program: Air Toxics

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



- Results Achieved
- Results Not Demonstrated
- Measures Adequate
- New Measures Needed

Key Performance Measures

	Year	Target	Actual
Long-term Measure: Percent of U.S. population free from unacceptable risks of cancer and other significant health problems from air toxic emissions	2020	95	
Annual Measure: Percentage reduction in nationwide air toxics emissions from stationary and mobile sources combined (actual data available later in 2003)	2002	5	
	2001	5	
	2000	3	
	1999	12	
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

The Air Toxics program is designed to reduce emissions of hazardous air pollutants (HAPs), such as hexane and benzene, from stationary sources, such as factories, and from vehicles.

The program's purpose is clearly laid out in the statute -- to reduce HAP emissions and unacceptable health risk from HAPs. The assessment showed that management is generally good. However, EPA has not fully utilized statutory flexibilities when implementing parts of the program. Although the long-term cancer reduction goal is clearly outcome-related, "unacceptable risk" is not defined, the relation between emissions changes and actual health outcomes are not known, and there are no efficiency measures. Specific findings include:

1. There is a clear purpose and design for the program.
2. The program has not shown it is maximizing net benefits, and proposing the most cost effective regulations.
3. There are inadequate linkages between annual performance and long-term goals that prevent it from demonstrating its impact on human health.
4. There are large data gaps for toxicity and on actual population exposure.

In response to these findings, the Administration will:

1. Increase funding for toxic air pollutant programs by \$7 million in State grants for monitoring to help fill data gaps.
2. Focus on maximizing programmatic net benefits and minimizing the cost per deleterious health effect avoided.
3. Establish better performance measures (including an appropriate efficiency measure).

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)

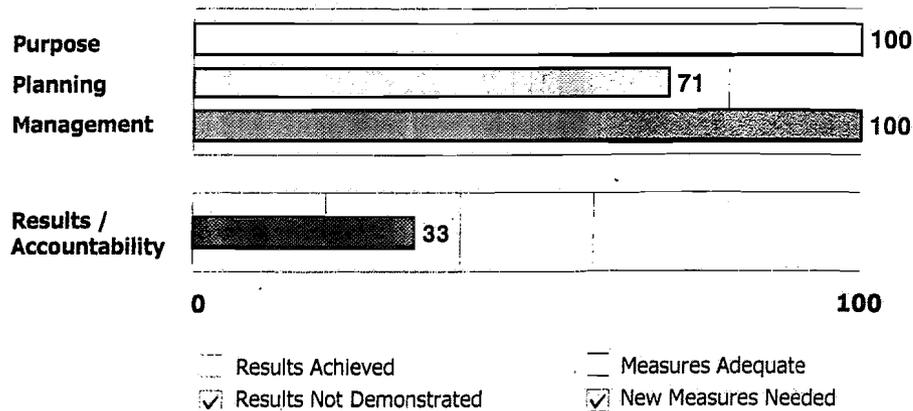
Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
115	118	125

Program: Civil Enforcement

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

Measure	Year	Target	Actual
Long-term Measure: Measure under development			
Annual Measure: Millions of pounds of pollutants reduced by eliminating discharges through enforcement activities	2001	350	660
	2002	300	
	2003	300	
	2004	350	
Efficiency Measure: Dollars negotiated per workyear from polluters for Supplemental Environmental Projects that restore, protect or improve the environment	1999		17,000
	2000		
	2001		27,000

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

EPA's civil enforcement program enforces federal environmental laws to protect human health and the environment by ensuring that regulated entities comply with these laws. EPA's management of their federal enforcement responsibility includes direct federal action (inspections, investigations, compliance assistance and incentives) as well as assisting and overseeing state, tribal, and local partners in achieving compliance to protect human health and the environment.

Findings from the PART assessment include the following:

1. The program lacks adequate outcome oriented performance measures. This impacts both program planning and results. With better outcome performance measures, program planning could be adjusted to achieve more effective results.
2. Outside evaluators have criticized the program for: a) lack of adequate workload analysis to support existing staffing and priorities, and b) lack of good quality data to accurately determine compliance and monitor the effectiveness of enforcement activities.

In response to these findings the Administration will:

1. Fund \$5 million for an improved compliance data system.
2. Revise EPA's strategic plan with a focus on defining EPA's federal enforcement role and appropriate outcome performance measures.

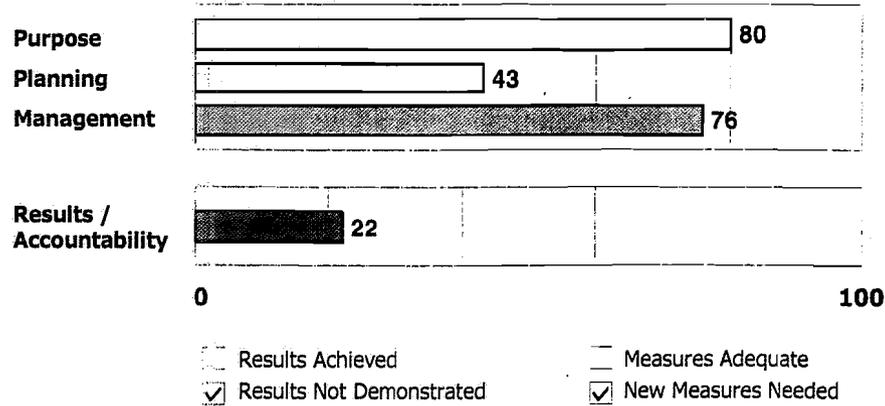
Program Funding Level (in millions of dollars)

2002 Actual	2003 Estimate	2004 Estimate
433	439	469

Program: Drinking Water State Revolving Fund

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency, activities



Key Performance Measures

Year Target Actual

Measure	Year	Target	Actual
Long-term Measure: Percent of population served by community water systems in compliance with health-based drinking water standards	2001	91	91
	2003	92	
	2005	95	
Annual Measure: Measure under development			
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Formula/Block Grants

Program Summary:

The Drinking Water State Revolving Fund program capitalizes state revolving loan funds that finance infrastructure improvements for public water systems and other activities that support state drinking water programs and promote public health protection. Most of the money has gone to upgrade water treatment plants.

The PART indicated that the Drinking Water SRF program is very competent as a national financial resource for state infrastructure projects targeted at compliance with health-based drinking water standards. A challenge facing the Drinking Water SRF program is to develop measurable long-term and annual performance goals that link the program to its public health mission. Additional findings include:

1. The program purpose is clear and it is designed to have a significant impact on a well identified need, although, there are other federal, state and private resources available to address the problem.
2. Evaluation of public health impacts from infrastructure improvements is difficult, in part because states provide only aggregate data.

In response to these findings, the Administration will:

1. Continue capitalization of the Drinking Water SRF at the 2003 President's Budget level because, although target revolving levels for the fund have been reached, continued federal support will close the recently identified gap in funding capital infrastructure needs for the next twenty years. The extended commitment proposed in the President's 2004 Budget is expected to provide \$45 billion for loans and assistance through the State Drinking Water SRFs, which will support over 21,000 new projects.
2. Develop new performance measures to be included in EPA's 2004 GPRA plan to better demonstrate the impact of the program.

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)

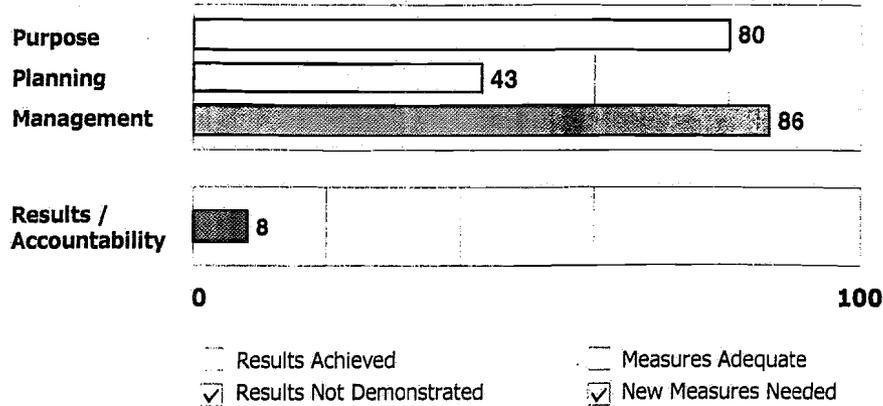
Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
850	850	850

Program: Existing Chemicals

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

Measure	Year	Target	Actual
Long-term Measure: Measure under development			
Annual Measure: Percent reduction in current year production-adjusted Risk Screening Environmental Indicators (RSEI) chemical risk based index (New measure)	2002	3	
	2003	4	
	2004	2	
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

EPA reviews and regulates chemical substances and mixtures that may harm human health or the environment. EPA's Existing Chemicals program covers the 62,000 chemicals that were already in commerce when Congress enacted the Toxic Substances Control Act, including testing, regulation, and reporting.

The assessment found:

1. The program has strong purpose and management. The program, however, lacks strategic planning.
2. The program cannot demonstrate any long-term impact. EPA's long-term goal does not focus on outcomes and lacks a baseline and clear time frames. The program also does not have an efficiency measure.
3. The program has demonstrated few results. EPA has reviewed approximately two percent of existing chemicals. GAO found that EPA has been slow to address these chemicals.
4. The law requires that EPA compile industry data, which can be costly and time-consuming.
5. EPA's current annual performance goals cannot be assessed because data are not available until two years into the future.

In response to these findings, the Administration will:

1. Provide \$1 million above the 2003 President's Budget to develop acute exposure chemical guidelines (AEGs). AEGs are important for homeland security response, recovery, and preparedness. AEGs represent three tiers of health effects (discomfort, disability, death) for five exposure durations (eight hours or less). This funding will help EPA to obtain more information on the possible harm to humans and the environment from chemicals, which will help the Agency to achieve a higher level of accountability and results.
2. Establish better performance measures, including efficiency measures.

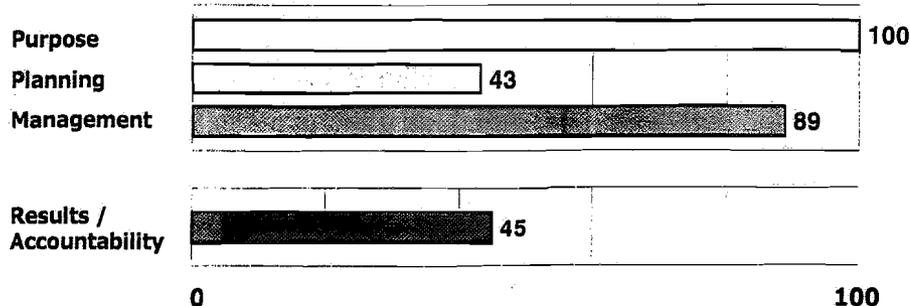
Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
11	12	13

Program: Leaking Underground Storage Tanks

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



- Results Achieved
- Results Not Demonstrated
- Measures Adequate
- New Measures Needed

Key Performance Measures

Year Target Actual

Measure	Year	Target	Actual
Long-term Measure: Measure under development			
Annual Measure: Leaking underground storage tank cleanups completed New annual outcome measures being developed	2000	21,000	20,834
	2001	21,000	19,074
	2002	21,000	
	2003	20,000	
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Formula/Block Grants

Program Summary:

The purpose of the Leaking Underground Storage Tank program is to clean up leaking underground petroleum tanks.

The assessment showed that:

1. The program purpose, to clean up leaking underground storage tanks, is clearly defined and is understood by states and other stakeholders.
2. The program is well managed, but would benefit from regular independent evaluations and a systematic process to review strategic planning.
3. Strategic planning is particularly critical to this program since it has already achieved its current long term goal and has no new long-term goal to challenge program managers. EPA may finish the backlog of 140,000 cleanups within the next decade. In the future, a smaller program may be suitable to address the lesser number of new releases that occur every year.
4. The program appears to be successful, as evidenced by achieving the goals of its authorizing legislation: cleanup of releases and upgrading tanks. However, the program scores poorly on the results section since it has no outcome based performance metrics that demonstrate an impact on people and the environment.

In response to these findings, the Administration will:

1. Continue to clean storage tank sites at a rapid pace.
2. Develop outcome measures that will test the link between the activities of the program and the impact on human health and the environment.

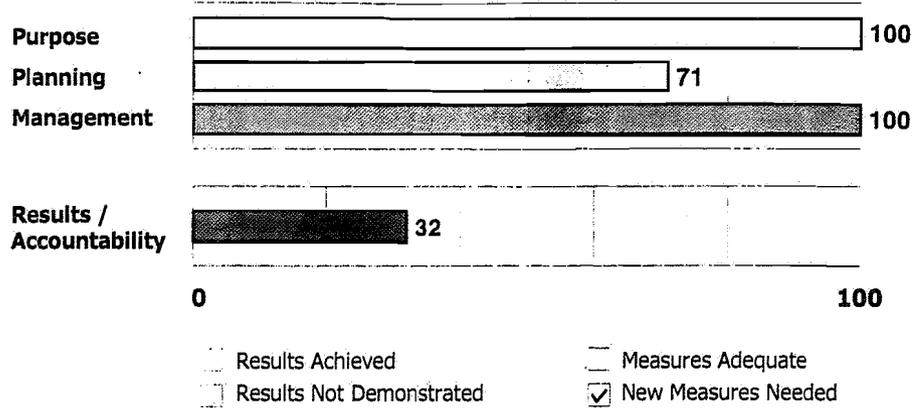
Program Funding Level (in millions of dollars)

2002 Actual	2003 Estimate	2004 Estimate
73	72	73

Program: New Chemicals

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

	Year	Target	Actual
Long-term Measure: Reduction of hazardous substances from products and processes in millions of pounds (Targets under development)	2007	250	
Annual Performance Goal: Annual quantity of hazardous substances eliminated through the Green Chemistry Challenge Awards Program from 1996 levels, in millions of pounds	2001		150
	2004	150	
Efficiency Measure: Measure under development			

Rating: Adequate

Program Type: Direct Federal

Program Summary:

EPA's New Chemicals program reviews new chemicals being introduced into commerce (manufactured or imported) to prevent possible harm to the public and environment.

The assessment found:

1. The program has very strong purpose and management.
2. The program collaborates with the Department of Labor on worker protection controls and has a cooperative agreement with Florida State University to identify and develop improved environmental indicators and program performance measures.
3. While the program has to some extent shown results, the main deficiency is the lack of adequate long-term measures. The measures are not outcomes, do not have clear targets and do not include at least one efficiency measure.
4. The PART exercise, however, has resulted in serious attention by the program to develop long-term goals for the program that can demonstrate results for human health and/or the environment.

In response to these findings, the Administration will:

1. Maintain funding at the 2003 President's Budget level.
2. Recommend improvement of the program's strategic planning, including an independent evaluation of the program, which can result in significant improvement of program results.
3. Establish more outcome-oriented measures including at least one efficiency measure.

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)

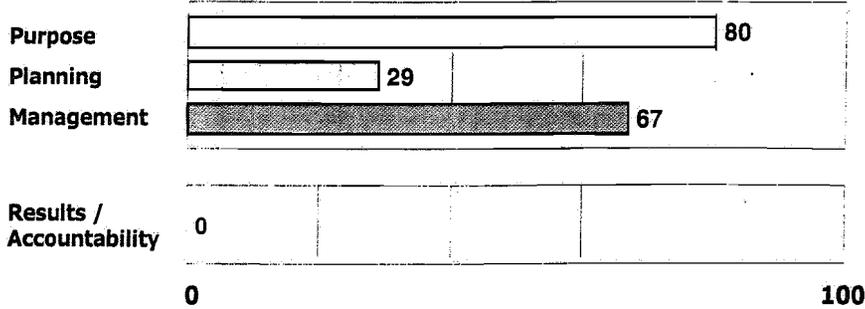
Program Funding Level (in millions of dollars)

2002 Actual	2003 Estimate	2004 Estimate
14	15	15

Program: Nonpoint Source Grants

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



- Results Achieved
- Results Not Demonstrated
- Measures Adequate
- New Measures Needed

Key Performance Measures

Year Target Actual

	Year	Target	Actual
Long-term Measure: Current measure achieved New measures under development			
Annual Measure: Measures under development			
Efficiency Measure: Measures under development			

Rating: Results Not Demonstrated

Program Type: Formula/Block Grants

Program Summary:

EPA's nonpoint source grants program, authorized by Section 319 of the Clean Water Act, gives money to States to reduce water pollution caused by nonpoint source runoff.

The analysis found that:

1. The program purpose is clear and agreed upon by interested parties.
2. The program has not collected sufficient performance information to determine whether it has had a significant effect on pollution.
3. The program's greatest weaknesses are strategic planning and a lack of measurable program results. Consequently, the program lacks adequate long-term, annual, and efficiency measures. Existing annual measures, such as "Number of states reporting on progress in implementing nonpoint source programs" do not provide useful, results-based performance information. The program's previous long-term goal has been met, and the agency has not yet developed a new one.
4. The program is in the process of developing new performance measures that focus on outcomes and efficiency.
5. EPA has made significant improvements to program management over the past several years, which will assist in their efforts to develop new performance measures. For example, in 2002 EPA implemented a new grants tracking system with additional reporting requirements. Through this new system, EPA will be able to see the estimated reductions in sediment and nutrient loads associated with each project implementation, as well as project geolocation.
6. The program overlaps with others in rural areas, such as the Department of Agriculture's Environmental Quality Incentives Program (EQIP) and Conservation Reserve Program.

In response to these findings, and to reduce overlap with similar Department of Agriculture programs that received significant funding increases in the Farm Bill (EQIP goes from \$200 million in 2002 to \$800 million in 2004), the Budget proposes to:

1. Shift the program's focus in agricultural watersheds from implementation of pollution reduction projects to planning, monitoring and assisting in the coordination and implementation of watershed-based plans in impaired and threatened waters.
2. Establish more outcome-focused measures and at least one efficiency measure.

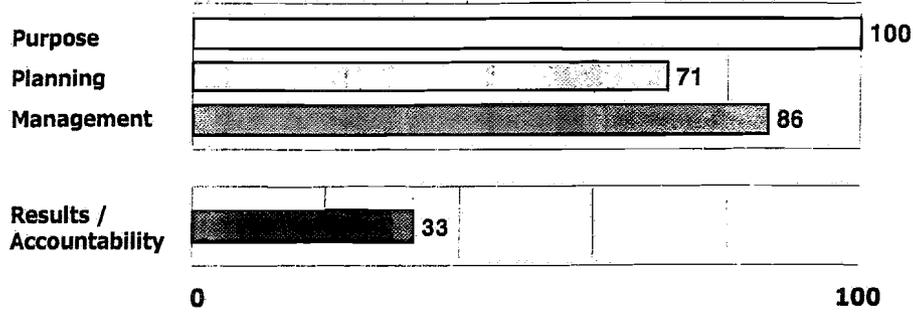
Program Funding Level (in millions of dollars)

2002 Actual	2003 Estimate	2004 Estimate
237	238	238

Program: Pesticide Registration

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



- Results Achieved
- Results Not Demonstrated
- Measures Adequate
- New Measures Needed

Key Performance Measures

Year Target Actual

Measure	Year	Target	Actual
Long-term Measure: Measure under development			
Annual Measure: Number of new reduced risk active ingredients registered	2001	11	11
	2002	10	15
	2003	13	
	2004	13	
Long-term Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

The Pesticide Registration program at EPA evaluates new pesticides and registers them for use in the United States. EPA examines the ingredients of the pesticide, how it will be used, as well as storage and disposal practices to ensure that, when used properly, the pesticide will not have any adverse effects on humans or the environment.

The assessment indicates that the program addresses an important nationwide interest and that further work is needed in the area of performance measurement. Specific findings include:

1. The program has a clear mission and statutory authority, and it provides for the safe use of pesticides on a nationwide basis.
2. The program has established long-term goals but they are not adequate because the goals lack quantified baselines and/or performance targets and they need to be more outcome-focused.
3. The program regularly reviews overall progress toward annual goals and does make management decisions to address issues that impede progress.
4. The program does not use efficiency or cost effectiveness metrics to monitor program management or performance.
5. Generally the program has met its annual goals but it is unclear how achieving these annual targets leads to quantifiable progress toward the program's long-term goals. One new long-term efficiency goal that targets reductions in decision-making time has been proposed for this program by EPA, but further work is needed to finalize the goal and to develop appropriate annual targets to support it.

In response to these findings, the Administration will:

1. Implement appropriate long-term measures.
2. Develop adequate efficiency and cost effectiveness measures to improve program performance and goal-setting.

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)

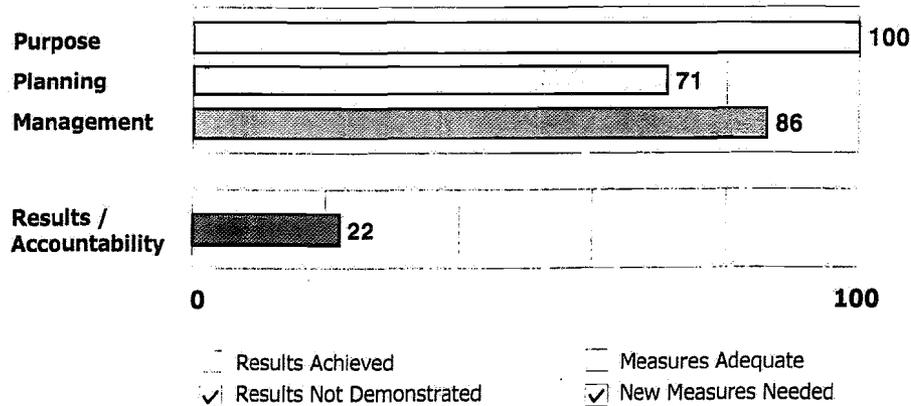
Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
45	44	48

Program: Pesticides Reregistration

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency, activities



Key Performance Measures

Year Target Actual

Measure	Year	Target	Actual
Long-term Measure: Measure under development			
Annual Measure: Percent of Reregistration Eligibility Decisions (REDs) completed A RED document summarizes the reregistration conclusions and outlines any risk reduction measures necessary for the pesticide to continue to be registered in the U.S.	2001	72.4	71.6
	2002	76.4	72.7
	2003	83	
	2004	88	
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

The Pesticide Reregistration program reviews pesticides already registered by EPA to make sure they meet current scientific and regulatory standards. The reregistration process considers the human health and ecological effects of pesticides and can result in changes to existing registrations to reduce risks that are of concern.

The assessment indicates that the program addresses an unambiguous quantifiable need and that further work is needed in the areas of efficiency evaluation and performance measurement. Specific findings include:

1. The program is the only entity that reviews existing pesticides to ensure they keep pace with advancing safety standards. The program has a clear mission and statutory authority.
2. The program has established long-term goals but they are not adequate because the goals lack quantified baselines and/or targets and because they need to be more outcome-focused.
3. The program regularly reviews progress toward annual goals and does make management decisions to address issues that impede progress but the program does not use efficiency or cost effectiveness measures to monitor program management and performance.
4. EPA has proposed a long-term efficiency goal for this program that targets reductions in decision-making time but further work is needed to finalize the goal and to develop appropriate annual targets to support it.
5. The program has met statutory deadlines but does not always meet annual goals and it is unclear how achieving annual targets leads to quantifiable progress toward the program's long-term goals. Progress toward future deadlines will require additional work on antimicrobial pesticides.

As a result of this review, the Administration:

1. Recommends providing an additional \$1.0 million for antimicrobial pesticides and \$0.5 million for inerts reregistration activities.
2. Will implement appropriate long-term performance measures, improved annual targets, and adequate long and short term efficiency measures.

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)

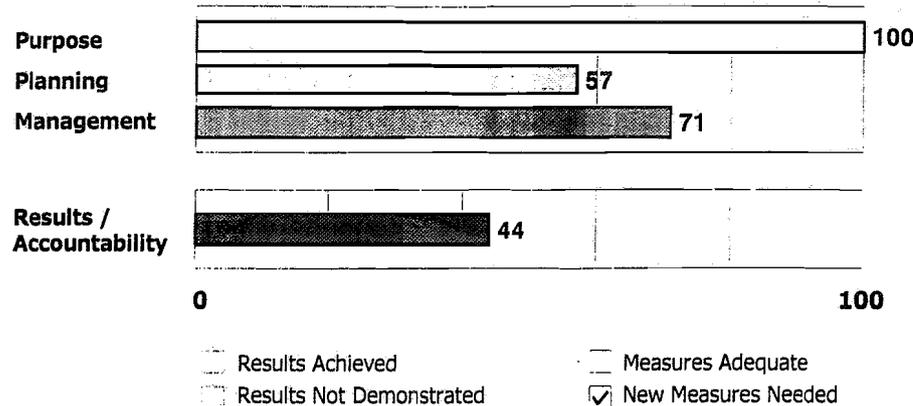
Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
45	48	52

Program: Superfund Removal

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

Measure	Year	Target	Actual
Long-term Measure: Measure under development			
Annual Measure: Number of removals completed	2001	300	302
	2002	275	426
	2003	350	
	2004	350	
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Direct Federal

Program Summary:

Superfund's Removal Program is a short term cleanup program to remediate emergency and non-emergency situations in two years or less.

The assessment showed that:

1. The program's purpose, to perform emergency cleanup of hazardous materials, is very clearly defined and understood by states and stakeholders.
2. The program would benefit from regular independent evaluations and a systematic process to review strategic planning.
3. The program meets its targets for number of removals each year, an output measure. However, the program scores poorly on the Results/Accountability section since it has no outcome based performance metrics that demonstrate the extent of the impact on public health and the environment.
4. There are no efficiency measures and the development requires overcoming significant data issues, namely, poor historic data quality in EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database.

In response to these findings, the Administration will:

1. Propose funding at the 2003 President's Budget level.
2. Develop outcome oriented measures that test the linkage between program activities and the impact on human health and the environment.
3. Improve data quality in the CERCLIS database.

(For more information on this program, please see the Environmental Protection Agency chapter in the Budget volume.)

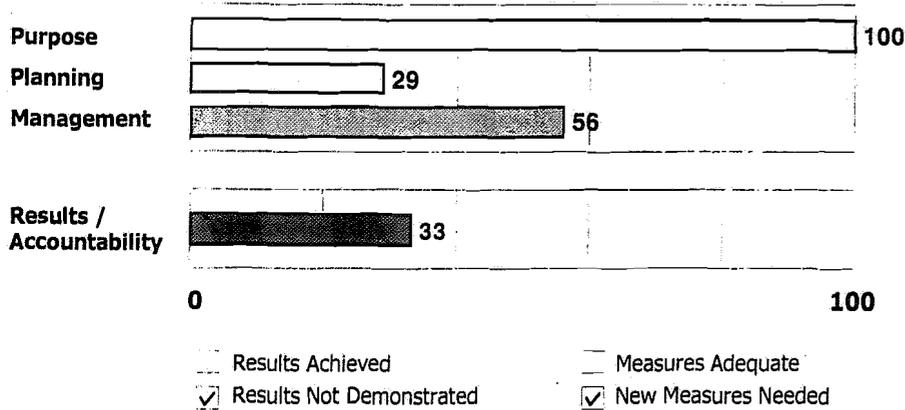
Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
203	203	203

Program: Tribal General Assistance

Agency: Environmental Protection Agency

Bureau: Environmental Protection Agency



Key Performance Measures

Year Target Actual

Measure Description	Year	Target	Actual
Long term Measure: Measure under development			
Annual Measure: Percent of tribes with delegated and non-delegated environmental programs (New measure, targets under development)			
Efficiency Measure: Measure under development			

Rating: Results Not Demonstrated

Program Type: Formula/Block Grants

Program Summary:

The Indian Environmental General Assistance Program (GAP) provides grants to federally recognized Native American tribes and eligible intertribal consortia to improve their ability to administer environmental regulatory programs.

The analysis found that:

1. The program's purpose is very clear and agreed upon by interested parties. Not all tribes currently have the financial resources and technical ability to develop and implement Federal environmental programs on their own.
2. Strategic planning is the program's weakest area, and plans from 2003 and earlier had weak performance goals that focused on processes more than environmental outcomes.
3. In recognition of these weaknesses, EPA has been working to develop new long-term goals and efficiency measures.
4. The program also adopted new annual performance measures, which more accurately reflect the program's purpose and activities.
5. GAP has improved its program management over the last year. It implemented a new grants management system which provides better information on grantee activities, and it also developed a tribal database which holds environmental, cultural, and administrative information on each of the tribes.

As a result of these findings, the Administration recommends:

1. Increasing GAP funding to \$62.5 million, \$5 million above the 2003 President's Budget level of \$57 million, in recognition that program management is improving.
2. That EPA use the new information from the recently implemented grants management system to further improve the program's strategic planning and management, including the development of long-term goals and efficiency measures.

Program Funding Level (in millions of dollars)

<u>2002 Actual</u>	<u>2003 Estimate</u>	<u>2004 Estimate</u>
52	57	62

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