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Introduction

EPA's Mission

The mission of the Environmental Protection Agency (EPA) is to protect and safeguard human health and the environment, with a new focus on collaboration and partnerships with our Geographic and Regional partners. This budget supports the Administration's commitment to environmental results -- making the air cleaner, water purer, and better protecting our land. The Agency's proposal for FY 2005 also reflects our primary goal of compliance with national standards, which support neighborhood solutions. It will enable the Agency to take a giant step toward national market-based solutions, boosting our nation to the next level of environmental protection.

EPA's Goals

EPA has five strategic, long-term goals in its Strategic Plan that guide the Agency's planning, budgeting, analysis, accountability, and implementation processes.

- **Clean Air and Global Climate Change:** EPA will protect and improve the air so it is healthy to breathe and risks to human health and the environment are reduced. EPA will reduce greenhouse gas intensity by enhancing partnerships with businesses and other sectors.

EPA and its partners will protect human health and the environment by attaining and maintaining health-based air-quality standards and reducing the risk from toxic air pollutants, and will encourage voluntary actions to improve indoor air in homes, schools, and office buildings. Through worldwide action, ozone concentrations in the stratosphere will improve, reducing the risk to human health from overexposure to ultraviolet radiation. EPA and its partners will also work to minimize unnecessary releases of radiation and be prepared to minimize impacts should unwanted releases occur. In addition, EPA will provide and apply sound science and conduct leading-edge research in support of air programs.

- **Clean and Safe Water:** EPA will ensure drinking water is safe. EPA will also restore and maintain oceans, watersheds, and their aquatic ecosystems to protect human health, support economic and recreational activities, and provide healthy habitat for fish, plants, and wildlife.

EPA will protect human health by reducing exposure to contaminants in drinking water, in fish and shellfish, and in recreational waters.

EPA will also protect the quality of rivers, lakes, and streams on a watershed basis, and protect coastal and ocean waters. EPA's water program will be supported by providing and applying a sound scientific foundation through the conduct of leading-edge research and development of a better understanding and characterization of the environmental outcomes.

- **Land Preservation and Restoration:** EPA will preserve and restore the land by using innovative waste management practices and cleaning up contaminated properties to reduce risks posed by releases of harmful substances.

EPA will reduce waste generation, increase recycling, and ensure proper management of waste and petroleum products at facilities in ways that prevent releases. EPA will also work to control the risks to human health and the environment by mitigating the impact of accidental or intentional releases and by cleaning up and restoring contaminated sites. EPA's land preservation and restoration efforts will be supported by the application of sound science and the conduct of leading-edge research.

- **Healthy Communities and Ecosystems:** EPA will protect, sustain, or restore the health of people, communities, and ecosystems using integrated and comprehensive approaches and partnerships.

EPA will prevent and reduce potential pesticide, chemical, and genetically-engineered biological organism risks to humans, communities, and ecosystems. EPA will work to protect, sustain, and restore the health of communities, natural habitats, and ecosystems, including brownfield

sites, the United States-Mexico border, wetlands, and specific ecosystems such as the Great Lakes, Chesapeake Bay, and Gulf of Mexico. The Agency will work to enhance the Nation's capability to prevent, detect, and recover from acts of terror through research, enhanced data collection and sharing, and provision of technical support to infrastructure. In addition, EPA will provide a sound scientific foundation for protecting, sustaining, and restoring the health of people, communities, and ecosystems through leading-edge research.

- **Compliance and Environmental Stewardship:** EPA will improve environmental performance through compliance with environmental requirements, preventing pollution, and promoting environmental stewardship. EPA will protect human health and the environment by encouraging innovation and providing incentives for governments, businesses, and the public that promote environmental stewardship. Additional funds and resources provided in 2004 and continued into 2005 will allow resumption of

targeted inspections and enforcement activities in both the civil and criminal context.

EPA will maximize compliance through compliance assistance, compliance incentives, and enforcement. EPA will also work to improve environmental protection and enhance natural resource conservation on the part of government, business, and the public through the adoption of pollution prevention and sustainable practices, the reduction of regulatory barriers, and the application of results-based, innovative, and multimedia approaches. In addition, EPA will assist Federally recognized tribes in assessing the condition of their environment, help build their capacity to implement environmental programs, and carry out programs in Indian country where needed to address environmental issues. EPA will also strengthen the scientific evidence and research supporting environmental policies and decisions on compliance, pollution prevention, and environmental stewardship.

Overview

Annual Plan and Budget Overview

The EPA's FY 2005 Annual Plan and Budget requests \$7.8 billion in discretionary budget authority and 17,904 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 protecting air, water, and land, as well as providing for EPA's role in safeguarding the Nation from terrorist acts. The request 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.

This Annual Plan and Budget submission demonstrates EPA's commitment to protecting human health and the environment, building and enhancing relationships with our Geographic and Regional partners, and improving environment results. EPA's budget request places a strong emphasis on working with stakeholders to protect human health. For example, the Agency requests \$65 million for grants to retrofit the Nation's school buses with cleaner technologies, thereby reducing diesel emissions. The budget will also assist our state and local partners in meeting national environmental quality standards. EPA requests \$20 million and \$45 million respectively to support the Agency's request for Water Quality Monitoring and the Great Lakes Legacy Act. These efforts exhibit EPA's commitment to collaborative environmental protection.

Clean Air and Global Climate Change

The FY 2005 President's Budget expands EPA's Clean School Bus USA program to \$65 million in grant funding for projects that reduce diesel emissions from school buses through bus retrofit or replacement. Clean School Bus USA helps ensure that school buses – which are the safest way for kids to get to school – also are the cleanest possible transportation for this generation of school

children. EPA initially launched the program in April 2003 using \$5 million in grant funding. The initial grant offering garnered 120 grant applications from every region of the country totaling nearly \$60 million in requests and offering some \$36 million in matching resources. EPA supported 17 of these projects with the given resources. By expanding this program, additional resources are available to communities for localized solutions that address an issue important to children and parents across the nation.

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 reduce power plant emissions of three of the most significant air pollutants—sulfur dioxide (SO₂), nitrogen oxides (NO_x), and mercury. Reductions in SO₂ and NO_x emissions will also reduce airborne fine particulate matter (PM_{2.5}), which is associated with these two pollutants. EPA's approach builds upon the success of the acid rain cap-and-trade program created by the Clean Air Act amendments 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 reductions 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. EPA has also proposed an Interstate Air Quality Rule that also utilizes a cap and trade program to reduce SO₂ and NO_x as well as a proposed Utility Mercury Reductions Rule that seeks comments on two approaches for reducing the estimated 48 tons of mercury currently emitted each year by coal-burning power plants in the United States. 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. One approach is to strengthen air models by developing emission factors and improving emission inventories.

The number of people living in areas with monitored ambient ozone concentrations below the NAAQS for the one-hour ozone standard will increase by 4% for a cumulative total of 53%.

A key to achieving the Clean Air Goal is \$313.0 million included in this budget for air grants that support states and tribes. This total includes resources to 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.

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

By 2005 the percentage of the population served by community water systems will receive drinking water that meets health-based standards with which systems need to comply as of December 2001 will be 94%.

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 of 38%.

Climate Change

This budget request includes \$130.1 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

Greenhouse gas emissions will be reduced from projected levels by approximately 90 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.

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.

Clean and Safe Water

Over the 30 years since enactment of the Clean Water and Safe Drinking Water Acts, government, citizens, and the private sector have worked together to make dramatic progress in improving the quality of surface waters and drinking water.

By 2005, using both pollution prevention and restoration approaches, so that 500 of the Nation's watersheds, water quality standards are met in at least 80% of the assessed water segments.

Thirty years ago, much of the nation's tap water had either very limited treatment or no treatment at all. About two-thirds of the surface waters assessed by states were not attaining basic water quality goals and were considered polluted. Some of the Nation's waters were open sewers posing health risks, and many waterbodies were so polluted that traditional uses, such as swimming, fishing, and recreation were impossible.

Today drinking water systems monitor and treat water to assure compliance with drinking water standards applicable to a wider range of contaminants. In addition, drinking water sources are now protected, which reduces treatment costs in the long run. The number of polluted waters has been dramatically reduced and many clean waters are even healthier. A massive investment of Federal, state, and local funds resulted in a new generation of wastewater treatment facilities able to provide "secondary" treatment or better. Discharges from over 50 different categories of industries are now regulated and efforts to implement 'best management practices' have helped reduce runoff of pollutants from diffuse or 'nonpoint' sources.

In FY 2005, EPA will focus on four strategies toward achieving the Nation's clean and safe water goals. To better address the complexity of the remaining water quality challenges, EPA will promote local watershed approaches to execute the best and most cost effective solutions to local and regional water problems. To protect and build on the gains of the past, EPA will focus on its core water programs. To maximize the impact of each dollar,

EPA will continue to strengthen vital partnerships with states, tribes and local governments, and others working toward the common goal of improving the Nation's waters. To leverage progress through innovation, EPA will promote water quality trading, water efficiency, and other market based approaches.

In FY 2005, to further support states and tribes in implementing CWA programs, EPA is making a significant investment in water quality monitoring to strengthen and upgrade state programs through state grants, improved data management systems and improved monitoring tools.

EPA's water research program will continue to provide a strong scientific basis for policy and regulatory decisions and explore emerging problem areas.

Water Quality Monitoring

The FY 2005 water quality monitoring investment will be a major step toward solving the well-documented shortcomings of the Nation's water quality monitoring. EPA can make the most of scarce resources through information-based management, using tools such as prevention, source water protection, watershed trading, and permitting on watershed basis. Monitoring is the foundation of information-based management and it is imperative that the data and information gaps be closed as quickly as possible. To strengthen and upgrade water quality monitoring programs across the country, EPA proposes two components: State grants targeted specifically to enhance state monitoring programs as well as support and enhancement of state data management systems.

Concentrated Animal Feeding Operations (CAFOs) and Storm Water

States are struggling with implementation of the NPDES permitting programs, as shown by withdrawal petitions and permit backlogs. Compounding the problem is that the regulated universe has increased by tenfold due to new requirements for concentrated animal feeding operations and storm water runoff. Additional resources in the form of state grants will assist states in implementing the NPDES CAFO programs and issuing storm water permits.

Water Quality Trading

In FY 2005 EPA will advance water quality trading in voluntary partnerships on a watershed

basis. It capitalizes on economies of scale and cost differences among sources. Trading allows one source to meet its regulatory obligations by using pollutant reductions gained by another source and provides incentives for voluntary reductions at a reduced cost to all. It encourages earlier and/or greater reductions than required, more cost effective programs, and incentives for innovative solutions to complex water quality problems.

Water Efficiency

Growing populations place increasing demands on water sources. In addition, the nation faces a multi-billion dollar gap between water and wastewater infrastructure needs over the next 20 years. The touchstone of a long-term strategy to manage and maintain water and wastewater infrastructure is sustainability. An important component of that strategy is promoting sustainable systems. EPA will work in partnership with the states, utility industry and others to enhance the operating efficiencies of systems. These efficiencies will help systems make necessary investments to meet growing demand and sustain gains made over the past three decades. EPA will also help mitigate the infrastructure needs by investing in efforts to reduce water demand and wastewater flows, allowing for deferral or downsizing of capital projects. Added benefits to reduced demand include: maintaining streamflows, protecting aquatic habitat, avoiding overdrawn aquifers, and conserving supply sources.

Land Preservation and Restoration

This budget continues a commitment to clean up toxic waste sites with \$1.4 billion for Superfund. 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 January 6, 2004, approximately 700 cleanup construction projects were underway at over 430 Superfund National Priority List (NPL) sites construction was complete on over 890 sites, or 59% of NPL sites. EPA has completed all final cleanup plans at over 1,100 NPL sites, undertaken 7,900 removals at hazardous waste sites to immediately reduce human health and environmental threats, assessed over 45,300 sites, and removed more than 33,400 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.

Healthy Communities and Ecosystems

Ensuring Safe Food

The FY 2005 request includes \$156.7 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 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 works 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 2005, EPA will reassess a cumulative 88% of the 9,721 pesticide tolerances required to be reassessed over ten years.

Chemical Programs

EPA's strategy to prevent and reduce potential risks posed by chemicals and microorganisms comprises three primary approaches: preventing the introduction into U.S. commerce of chemicals that pose unreasonable risks; effectively screening the stock of chemicals already in use for potential risk; and developing and implementing action plans to reduce use of and exposure to chemicals that have been demonstrated to harm humans and the environment. EPA will continue to work with states and Tribes, other federal agencies,

the private sector, and international entities to implement this strategy and, in particular, to make protection of children and the aging a fundamental goal of public health and environmental protection in the United States and around the world. Both the New Chemicals and Existing Chemicals programs have initiated work to develop long-term, ambitious targets not only in response to the FY 2004 PART process but also in conjunction with the EPA Strategic Plan revision effort. Both have made significant improvements since the FY 2004 review, with new chemicals program receiving one of the highest ratings of EPA programs reviewed by the PART for FY 2005. Both programs are continuing its efforts to improve performance measurement in response to FY 2005 PART findings by developing long-term and associated annual efficiency measures.

Great Lakes

To advance the Agency's efforts regarding innovative and effective partnerships, EPA is making a significant investment in the Great Lakes Legacy Act program to address cleanup of contaminated sediments. EPA and its Great Lakes community partners will collaborate on remedial action within the Areas of Concern identified as potential Legacy Act sediment remediation sites in 2005.

Chesapeake Bay

The FY 2005 President's Budget includes \$30 million for the Chesapeake Bay. Of that total, \$10 million in the Targeted Watershed program is directed toward Chesapeake Bay for a regional pilot program that will help sewage treatment plants reduce nutrient discharges to the Bay through nonpoint source projects. Partners in the effort to protect the Bay include Maryland, Virginia and Pennsylvania; the District of Columbia; the Chesapeake Bay Commission, a tri-state legislative body; EPA, which represents the Federal government; and participating citizen advisory groups.

Brownfields

Additionally, the Agency is committed to building innovative and effective partnerships that allow states and tribes to make environmental decisions on local levels. This budget provides \$210 million 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 some of these 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 rejuvenate areas.

Homeland Security

EPA's FY 2005 Annual Plan and Budget requests \$97 million and 151 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. In addition, EPA will conduct research and provide guidance and technical support for Federal, state, local governments, and other institutions in the areas of biological agents, water security, and rapid risk

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.

assessment.

Compliance and Environmental Stewardship

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 a smart enforcement program. A smart enforcement program uses a mix of integrated strategies, partnerships, and innovative approaches to provide cleaner air, purer water, and better protected land. An integrated approach considers the appropriate tools to use when addressing environmental problems, and uses data analysis and other relevant information to marshal and leverage resources to target significant noncompliance and address the associated environmental risks. The program uses a combination of tools such as compliance assistance and incentives, monitoring, and civil and criminal enforcement, in cooperating with our regulatory partner, to provide 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. EPA works in partnership with them and other Federal agencies to promote environmental protection.

The FY 2005 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

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.

initiatives targeted toward improving compliance at Federal facilities, in specific industrial and commercial sectors, or with certain regulatory requirements.

The President's FY 2005 request continues to support pollution prevention. Increasingly, the nation is recognizing the value of pollution prevention as an environmental strategy, as a sustainable business practice, and as a funding principle of our society. It is also a vehicle for "reinventing" traditional EPA programs and devising innovative alternative strategies to protect public health and the environment. Through EPA's leadership, pollution prevention has become a key element of initiatives to improve federal environmental management, empower state and tribal programs, encourage corporate stewardship, and better inform the public.

Enhancing Environmental Performance

To further EPA's goal of promoting environmental stewardship, the Agency will make investments in programs to support State innovation and pollution prevention in FY 2005. A new State and Tribal Performance Fund provides \$23 million in competitive grants to develop projects with tangible, performance-based environmental and health

outcomes that can be models for implementation across the nation. EPA will also continue its emphasis on working with Tribal governments to build the capacity of their environmental programs.

Strong Science

The FY 2005 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. This budget request includes \$572 million for the Office of Research and Development to develop and apply strong science to address both current and future environmental challenges. These resources support 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. The budget request includes important new or increased research efforts in the following areas: computational toxicology, data quality, and IRIS.

In accordance with the Administration's Investment Criteria for Research and Development (relevance, quality, and performance), the Agency will continue to improve the application of the Criteria to achieve maximum environmental and health protections. Efforts include applying the highest quality scientific methods, models, tools, and approaches.

Relevance

EPA's Office of Research and Development (ORD) has developed Multi-Year Plans (MYPs) for each of its major research programs. These MYPs describe the scientific context and present clear goals and priorities for each research program. Reflecting the inherently long-term nature of research, each MYP has identified annual and long-term (five to eight years out) goals that contribute to achievement of the Agency's strategic outcome goals and objectives. Each MYP is regularly updated to reflect scientific and budgetary changes, and is independently peer-reviewed.

The Agency is also exploring options for establishing periodic evaluations of EPA research programs. Beginning in FY 2005, regular evaluations by independent and external panels will provide prospective and retrospective reviews of program relevance, quality, and performance to date.

Specifically, evaluators will determine whether EPA research programs have complete plans with clear goals and priorities, articulate potential public benefits, are relevant to National, scientific, and customer needs, and identify appropriate output and outcome measures, schedules, and decision points. Evaluations will also include an examination of program design to determine the appropriateness of a program's short-, intermediate-, and long-term goals and its strategy for attaining these. Recommendations and results from these reviews will improve the design and management of EPA research programs and help to measure progress under the Government Performance and Results Act (GPRA). EPA Program Offices and Regions actively participate in setting goals and priorities for Agency research. This input is used on an annual basis to inform and identify the performance impacts of budgetary decisions.

Quality

The Agency will continue to rely upon peer review as a critical means of ensuring that Agency science activities are technically adequate, competently performed, properly documented, and satisfy established quality requirements. 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 Science to Achieve Results (STAR) program is a competitive, peer-reviewed, extramural grants program whose goal is to enhance EPA's research efforts by engaging the nation's best scientists to provide high-quality, innovative research and solutions to protect human health and the environment. The STAR program uses external scientific peer reviewers to rate applications based on scientific merit.

Performance

In response to recommendations from the National Research Council, EPA's Science Advisory Board, and OMB, ORD is continually working to improve the performance of its research programs. Because of the inherent challenge in measuring research results, EPA is taking a multi-faceted approach in tracking and communicating the performance of its research programs.

Specifically, EPA has developed multi-year plans for each of its research programs using a program design/evaluation logic model to help

identify the outputs, customers, transfer needs, and short-, intermediate-, and long-term outcomes of each research program. ORD has incorporated these critical elements into its long-term and annual performance goals to illustrate how research contributes to the achievement of Agency outcomes. The Agency has included specific long-term goals and annual performance goals which represent significant research accomplishments in the individual goal chapters of the budget request. EPA will also determine success in achieving each program's research commitments not only by its timeliness in meeting annual performance goals, but will also hold external independent reviews on a regular basis to evaluate the relevance, quality, and performance of its research programs.

EPA believes that taking a multi-year approach to its research planning, incorporating the elements of logic model design in the development of outcome-oriented performance information, and initiating external independent reviews of its research programs are important improvements in support of achieving significant research results and contributing to the achievement of Agency environmental and health outcomes.

The President's Management Agenda: 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. 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 public.

Implementation of the President's Management Agenda is a major focus of the Agency's FY 2005 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 EPA's progress as "green" in all five of the five areas and its status as "green" in Improved Financial Performance.

EPA continues to place a great emphasis on improving performance measures. The results of the Administration's Performance Assessment Rating Tool (PART) were used to inform the Agency's FY 2005 budget request. For example, EPA is investing in water quality monitoring to ensure adequate information is available to link programmatic outputs to environmental outcomes, and the Agency is better targeting pollution prevention (P2) efforts by enhancing P2 programs that have shown outcome results. In addition to and complementing the Agency's outcome-based environmental performance measures, some programs have developed or are in the process of developing efficiency measures. These measures are structured as a ratio of key program inputs (e.g. time, dollars, FTE) to program outputs or outcomes. They are intended to provide EPA program managers with additional information to be used as a tool for sound decision-making in program management.

The Agency has also incorporated Measurement Development Plans (MDPs) into this year's Annual Plan and Budget. MDPs, which recognize that environmental performance does not necessarily improve in one year, describe efforts to fill identified measurement gaps so that progress toward developing fully functioning measures, whether long-term or short-term, can be tracked. MDPs provide a road map for developing improved long-term and short-term performance measures for inclusion in the next strategic plan, tracking current strategic targets that cannot be measured annually, and assessing progress in addressing performance measurement gaps.

GOAL 1: Clean Air and Global Climate Change

STRATEGIC GOAL: Protect and improve the air so it is healthy to breathe and risks to human health and the environment are reduced. Reduce greenhouse gas intensity by enhancing partnerships with businesses and other sectors.

BACKGROUND AND CONTEXT

Based on air quality trends measured at more than 5000 monitoring sites across the U.S., air quality has improved steadily since the 1970s. This improvement has occurred even as Gross Domestic Product has increased by 164 percent, miles traveled by cars and trucks have increased 155 percent, energy consumption has increased by 42 percent; and population has increased by 38 percent.¹

Concerted efforts and steady progress have achieved cleaner, healthier air, but air pollution continues to be a human health and environmental problem in the U.S. and around the world. The average adult breathes over 3,400 gallons of air every day. Children are more susceptible to air pollution because they breathe even more air per pound of body weight than adults. Children also are at greater risk because they are more active outdoors and their lungs are still developing. The elderly are more sensitive to air pollution because they often have heart or lung disease.²

Pollutants in the air cause cancer or other serious health effects, including respiratory, developmental, and reproductive problems. 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 humans and animals. Air pollution also damages crops and forests, makes soil and waterways more acidic, reduces visibility, and accelerates corrosion of buildings and monuments.³

In addition, air pollutants diminish the protective ozone layer in the upper atmosphere. Human activities also affect the mixture of gases in the atmosphere and contribute to the potential for world climate change.

Outdoor Air Pollution: The Clean Air Act⁴ addresses three general categories of outdoor air pollution: “criteria” pollutants, air toxics, and acid rain. Criteria pollutants include six common pollutants: particulate matter (PM), ozone, sulfur dioxide (SO₂), nitrogen dioxide (NO₂), carbon monoxide (CO), and lead, for which EPA sets National Ambient Air Quality Standards to protect public health and the environment. Air toxics, also called hazardous air pollutants (HAPs), are pollutants that are known or suspected to cause cancer or other serious health problems, such as reproductive effects or birth defects, or adverse ecological effects. The Clean Air Act lists 188 HAPs. Examples include: dioxin, mercury, benzene, toluene, and xylene. Acid rain is formed when SO₂ and nitrogen oxides (NO_x) react in the atmosphere with water, oxygen, and oxidants to form acid droplets.

The paragraphs below summarize the health and environmental effects associated with the six criteria pollutants, air toxics, and acid rain.⁵

- Particulate matter. PM is associated with a wide variety of health and environmental problems. When exposed to higher concentration 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

¹ U.S. EPA, *Latest Findings on National Air Quality: 2002 Status and Trends Report*, 454/K-03-001 (August 2003), <http://www.epa.gov/airtrends/>.

² Ibid

³ Ibid

⁴ Clean Air Act Title 1, Part A and Part D, Subparts 3 and 5 (42 U.S.C. 7401-7431, 7512-7512a, 7514-7541a)(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. 7651-7661); Clean Air Act (42 U.S.C. 7401-7671q)

⁵ *Latest Findings on National Air Quality: 2002 Status and Trends Report*

respiratory diseases, such as asthma and chronic bronchitis, causing more use of medication and more doctor visits.

PM also is a major cause of haze and reduced visibility in parts of the U.S., 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 PM settling may include acidifying lakes and streams, 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 effects. Other at-risk groups include adults who are active outdoors and individuals with respiratory disorders such as asthma.

Ground-level ozone interferes with the ability of many plants to produce and store food. This reduces crop and forest yields by making plants more susceptible to disease, insects, other pollutants, and harsh weather. Ozone also damages the leaves of trees and other plants, affecting the appearance of cities, national parks, and recreation areas.

- Sulfur dioxide. 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 also is a major contributor to acidic deposition.

- Nitrogen dioxide. 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. 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, have 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 to 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.

- Air toxics: Air toxics or HAPs, 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. HAPs are emitted from thousands of sources, including automobiles, utilities, and industries. HAPs also can contribute to the levels of PM and volatile organic compounds (VOCs), precursors to ozone. Adverse effects to human health and the environment due to HAPs can result from even low level exposures to air toxics from individual facilities, exposures to mixtures of pollutants found in urban settings, or exposures 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 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.

- **Acid rain.** Emissions of SO₂ and 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 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 (fine PM) that affect public health by contributing to premature mortality, chronic bronchitis, and other respiratory problems.

Indoor Air Pollution: Indoor air levels of many pollutants may be two to five times, and occasionally more than 100 times, higher than outdoor levels. There is no comprehensive monitoring of the quality of indoor air in the U.S. and the actual levels for many pollutants are not well understood. Indoor air pollutants are of particular concern because most people spend as much as 90% of their time indoors. Common sources can include burning kerosene, wood, or oil; smoking tobacco products; releases from household cleaners, pesticides, building materials; and radon. Inadequate ventilation can increase indoor pollutant levels by not bringing in enough outdoor air to dilute emissions from indoor sources and by not carrying indoor air pollutants out of the home. High temperatures and humidity levels can also increase concentrations of some pollutants.

Poor indoor air quality can cause short-term problems, including headaches, fatigue, dizziness, nausea, and a scratchy throat. Other effects include cancer – particularly from long-term exposure to high secondhand smoke and radon concentrations – and aggravation of chronic respiratory diseases such as asthma. Exposure to naturally occurring radon gas is

the second leading cause (after smoking tobacco) of lung cancer among Americans.⁶

Climate Change: The buildup of greenhouse gases—primarily carbon dioxide, methane, and nitrous oxide—has heat-trapping properties that may impact climate on Earth. These potential regional climate changes could alter forests, crop yields, and water supplies. These changes could also threaten human health, and harm birds, fish, and many types of ecosystems.

Stratospheric Ozone Depletion: A protective ozone layer is located in the stratosphere about six to 30 miles above the Earth's surface. This layer protects humans and other species from the sun's harmful ultraviolet radiation (UV). This protective shield is being damaged by chemicals such as chlorofluorocarbons (CFCs), halons, and methyl bromide, and can lead to harmful health effects such as skin cancer and cataracts.⁷ Increased UV also can lead to reduced crop yield and disruptions in the marine food chain.

Ozone depletion and climate change are separate environmental issues but are related in some ways. Specifically, some substances that deplete the ozone layer also are potent and very long-lived greenhouse gases that absorb outgoing radiation and warm the atmosphere.

Radiation: Radiation occurs naturally (e.g., radon), but we also use radioactive materials in electricity generation, in industrial processes, and in medical diagnoses and treatments. Any activity that produces or uses radioactive materials generates radioactive waste. Mining, nuclear power generation, and various processes in industry, defense, medicine, and scientific research produce byproducts that include radioactive waste. Radioactive waste can be in gas, liquid, or solid form, and the level of radioactivity can vary. The waste can remain radioactive for a few hours or several months or even hundreds of thousands of years. Frequent exposures

⁶ Institute of Medicine, *Clearing the Air: Asthma and Indoor Air Exposures* (Washington, DC: The National Academy Press, 200). Available at <http://books.nap.edu/books/0309064961/html/R1.html>.

⁷ June 1999, "Synthesis Report of the Reports of the Scientific, Environmental Effects, Technology and Economic Assessment Panels of the Montreal Protocol: A Decade of Assessments for Decision Makers Regarding the Protection of the Ozone Layer: 1988 - 1999"; January 2003, Report of the Montreal Protocol Science Assessment Panel, "Scientific Assessment of Ozone Depletion: 2002"; March 2003, Report of the Montreal Protocol Environmental Effects Assessment Panel, "Environmental Effects of Ozone Depletion: 2002".

to radiation can cause cancer and other adverse health effects.

Science and Research: EPA relies on sound science in its clean air programs. EPA uses sound science to determine the relative risks that air pollution poses to human health and the environment. In addition, the Agency utilizes science in an attempt to identify the best means to detect, abate and avoid environmental problems associated with air pollutants.

MEANS AND STRATEGY

The air problems that now remain are some of the most difficult to solve. EPA's strategy to address the overall goals of the clean air program includes a combination of national and local measures that reflect the different roles of Federal, state, Tribal, and local governments. EPA, states, and local agencies work together as partners to meet clean air goals cost-effectively by employing an array of regulatory, market-based, and voluntary approaches and programs. 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 and implementing their clean air plans and programs.

Healthier Outdoor Air: Problems with broad regional, national or global impact – emissions from power plants and other large sources, pollution from motor vehicles and fuels, and stratospheric ozone depletion – are best handled primarily at the multi-state, regional, or Federal level. A national approach allows for the use of traditional, regulatory tools where appropriate, and enables EPA to implement innovative, market-based techniques such as emissions trading, banking, and averaging, and other national programs cost-effectively.

States, Tribes, and local agencies can best address the regional and local problems that remain after Federal measures have been fully applied. Many of these approaches employ innovative techniques, such as diesel retrofits and community-based approaches to toxics that are well-suited to the local nature of many air-related problems. EPA works closely with public- and private-sector partners and stakeholders to develop the tools – such as monitoring, modeling, and emission inventories – that allow states, Tribes, and localities to address these more localized problems.

EPA will also work to build the institutional capacity within developing countries and regionally manage air pollution, focusing on those countries that have demonstrated potential and commitment to affect human health and the environment globally. Programs include those that address clean fuels, reduction of mercury and lead emissions, training on various air quality issues, and partnering with existing clean air initiatives.

To improve air quality and address the highest health and environmental risks, EPA will proceed with Federal stationary and mobile source programs aimed at achieving large, nationwide, cost-effective reductions in emissions of PM and its contributors such as SO₂, NO_x, and elemental and organic carbon; ozone-forming NO_x; and volatile organic compounds (VOCs).

The President's Clear Skies Initiative is a cornerstone of the EPA strategy. The proposed legislation, re-introduced in the Congress in February 2003, would create a mandatory program that is designed to reduce dramatically power plant emissions of SO₂, NO_x, and mercury, three of the most harmful air pollutants from power generators, from FY 2000 levels.⁸ (Alternatively, the Interstate Air Quality and Utility Mercury Reduction Rules are integrated air rules proposed by EPA in December 2003 to achieve many of Clear Skies' objectives absent new legislation.).⁹ Both Clear Skies and the proposed integrated air rules would create a market-based program, with results guaranteed by emissions caps instituted over a period of time, an approach that proved successful in reducing acid rain. As the Clear Skies Initiative moves forward, through enactment of new legislation or promulgation of the proposed Interstate Air Quality and Utility Mercury Reduction Rules, EPA will continue to implement the Acid Rain Program to reduce SO₂ and NO_x emissions from electric power generators and address the interstate transport of ozone and NO_x through the NO_x Budget Program, a multi-state emissions allowance trading program under the NO_x SIP Call. In addition, EPA is implementing national programs that will dramatically reduce future emissions from a wide range of mobile sources, including cars, minivans, sport utility vehicles (SUVs), trucks, buses, motorcycles, and nonroad engines.

⁸ Senate and House of Representatives, Clear Skies Legislation Act of 2002, S. 2815 (July 29, 2002) and H.R. 5266 (July 26, 2002),

<http://www.epa.gov/clearskies/bill.pdf>

⁹ 40CFR Parts 51, 72, 75, 96 Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Interstate Air Quality Rule) web site www.epa.gov/interstateairquality/

EPA will propose whether to update the particulate matter standards in FY 2005 and will continue the work necessary to propose whether to update the ozone standard in FY 2006. EPA also will provide guidance and technical support to states, Tribes and local communities to help meet multiple air quality standards and regional haze progress goals, especially for those pollutants that share common precursors or emission sources.

Healthier Indoor Air: EPA implements two primary 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 reductions, and customer service. Through partnerships, 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.

Reduce Greenhouse Gas Intensity: In 2002, President Bush announced a new approach to global climate change designed to harness the power of the marketplace and technological innovation. The President committed America to cut greenhouse gas intensity by 18 percent over the next decade.¹⁰ EPA's voluntary climate programs play a major role in meeting this goal by working in partnership with businesses and other sectors through programs that deliver multiple benefits while improving overall scientific understanding of climate change and its potential consequences. The core of EPA's climate

change efforts are voluntary government/industry partnership programs – such as the ENERGY STAR program - designed to capitalize on the tremendous opportunities available to consumers, businesses, state and local governments, and organizations to make sound investments in energy 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 (CAT) program, EPA develops unique new technologies with high potential for improving air quality and dramatically improving vehicle efficiency. Through partnerships with industry, significant elements of EPA's technologies will be introduced commercially by vehicle manufacturers before the end of the decade. In addition, EPA works with other key stakeholders in promoting the development and commercialization of fuel cell technology in support of U.S. environmental, energy, and national security goals.

Protect the Ozone Layer: EPA's strategy for restoring the ozone layer includes carrying out a program that includes domestic rules and international technology transfer. As a signatory to the Montreal Protocol on Substances that Deplete the Ozone Layer, the U.S. is obligated to regulate and enforce the terms of the treaty domestically. In accordance with this treaty and related Clean Air Act requirements, EPA will continue to implement the domestic rule-making agenda for the reduction and control of ozone-depleting substances (ODSs) and enforce rules controlling their production, import, and emission. This includes combining market-based regulatory approaches with sector-specific technology guidelines and facilitating the development and commercialization of alternatives to methyl bromide and HCFCs. EPA will strengthen outreach efforts to ensure efficient and effective compliance, and continue to identify and promote safer alternatives to curtail ozone depletion. To help reduce international emissions, EPA will assist with the transfer of technology to developing countries and work with them to accelerate the phase-out of ODSs. EPA estimates that the worldwide phase-out of ODS will save 6.3 million lives from fatal cases of skin cancer, avoid 299 million cases of nonfatal skin cancers, and avoid 27.5 million cases of cataracts in the U.S. alone between 1990 and 2165.

Because the ozone layer is not expected to recover until the middle of this century at the earliest, the public will continue to be exposed to higher

¹⁰ The White House, Office of the Press Secretary, President Announces Clear Skies & Global Climate Change Initiatives (February 14, 2002), <http://www.whitehouse.gov/news/releases/2002/02/20020214-5.html>

levels of UV radiation than existed prior to the use and emission of ODS. Recognizing this and the public's current sun-exposure practices, EPA will continue education and outreach efforts to encourage behavioral changes the primary means of reducing UV-related health risks.

Radiation: EPA continues to meet the statutory mandates for managing radiation waste and controlling radioactive emissions and to fulfill its responsibilities under Presidential Decision Directives for radiological emergency preparedness and response. These responsibilities form the core of our strategy to protect the public and the environment from unnecessary exposure to radiation. EPA works with states, Tribes, and industry to develop innovative training, public information and voluntary programs to minimize these exposures.

Science and Research: To support achievement of its clean air objectives and the overall goal of clean air for American communities and surrounding ecosystems, EPA will ensure that efforts to reduce environmental risks are based on the best available scientific information. In addition, EPA will continue to integrate critical scientific assessment with policy, regulatory and non-regulatory activities.

EPA's air pollution research supports the Agency's mandated responsibilities under the Clean Air Act. This research falls into two distinct groups: 1) research supporting the development and achievement of the national ambient air quality standards (NAAQS), and 2) research on hazardous air pollutants. NAAQS-related research focuses on tropospheric ozone and particulate matter (PM), while the Air Toxics Research program provides the scientific underpinnings of the Agency's activities to reduce hazardous air pollutants (HAPs) as identified in the Clean Air Act.

PM research provides methods, models, and data on the health risks associated with exposure to PM, alone and in combination, focusing on exposures, health effects, mechanisms of injury, and identification of PM components that affect public health. In addition, both PM and tropospheric ozone research provide 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. Efforts in this area provide the necessary health effects data, measurements, methods, models,

information, 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 air 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. 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 AND FY 2005 ANNUAL PERFORMANCE GOALS

Healthier Outdoor Air

- The number of people living in areas with monitored ambient ozone concentrations below the NAAQS for the 1-hour ozone standard will increase by 4% (relative to 2004) for a cumulative total of 53% (relative to 1992).
- 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 2004) for cumulative total of 7% (relative to 1992).
- Air toxics emission nationwide from stationary and mobiles sources combined will be reduced by an additional 1% of the updated 1993 baseline of 6.0 million tons for a cumulative reduction of 38%.

Healthier Indoor Air

- 843,300 additional people will be living in homes with healthier indoor air.
- 1,312,500 students, faculty and staff will experience improved indoor air quality in their schools.

Protect the Ozone Layer

- Restrict domestic consumption of class II HCFCs below 9,906 ODP-weighted metric tons (ODP MTs) and restrict domestic exempted production and import of newly produced class I CFCs and halons below 10,000 ODP MTs.

Reduce Greenhouse Gas Intensity

- Greenhouse gas emissions will be reduced from projected levels by approximately 90 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.

Radiation

- Certify that 40,000 55-gallon drums of radioactive waste (containing approximately 120,000 curies) shipped by DOE to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards.

Enhance Science and Research

- 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 efficiency improvement of 30% over the baseline.

HIGHLIGHTS**Ensure Healthier Outdoor Air**

In FY 2005, EPA will significantly expand its efforts to reduce children's exposure to diesel exhaust and the amount of air pollution created by diesel school buses through its Clean School Bus USA program. More than 24 million children in the US ride a bus to and from school every day and research has found that these children can be exposed to high levels of diesel exhaust. The Agency's Clean School Bus USA program is designed to help reduce this exposure by providing grant funds to State, tribal, or local government entities to upgrade (or "retrofit") newer school buses with better emission

control technologies and/or fuel them with cleaner fuels or to replace the oldest school buses in the fleet with new, less polluting buses. In FY 2005, EPA will develop a grant solicitation process that will award these funds on a competitive basis.

In FY 2005, EPA will complete an assessment of how sources create Fine PM in the air and, with along with mercury emissions, the effect on downwind areas. This assessment will support the Fine PM NAAQS implementation, the Interstate Air Quality Rule and the Utility Mercury Reductions Rule. This work will also support the President's legislative proposal on Clear Skies. EPA will begin implementation efforts for both the Interstate Air Quality Rule and the Utility Mercury Reductions Rule.

The Agency will also continue to work with states, Tribes and local communities to reduce exposure to air pollution through implementation of the National Ambient Air Quality Standards. We will provide technical support to states in developing State Implementation Plans to aid them in considering the transport of pollution on a regional level in their plans. For particulate matter, EPA will be finalizing attainment designations while working with states and local areas to develop control strategies to reduce emissions. For ozone, since designation will be finalized in 2004, the Agency will be supporting SIP development efforts while working with localities on innovative measures to provide early emission reductions.

For the HAPs, FY 2005 will be a critical year for implementing the national air toxics strategy. The Agency will continue its transition from a technology-based to a risk-based control program. The Agency is still required to set technology-based standards for area sources.

In FY 2005, EPA will, as required by the Clean Air Act, continue the extensive residual risk analyses for already promulgated maximum achievable control technology (MACT) standards to determine if additional standards are necessary to reduce the remaining risks from these sources. The Agency will continue to develop the state, local, and Tribal component of the Air Toxics Program 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. As part of this effort, EPA will continue to support community assessment and risk reduction projects. The EPA will release an integrated final version of the national emission inventory (NEI) using data collected from 2002. This integrated inventory will include air toxics emissions data for analyzing public health risks from air toxics and strategies to reduce them, and to manage the

risks posed by air toxics emission. The Agency will continue to develop the national ambient air toxic network to improve characterization of both national and community air toxic levels. Also in FY 2005, we will be promulgating the Utility Mercury Reductions Rule. This program may utilize a cap and trade approach that would allow emissions trading in lieu of a MACT standard which is less flexible and more costly. (The proposed rule seeks comment on both the cap and trade and MACT approaches.)

In FY 2005, EPA will establish and implement Federal standards to require cleaner motor vehicles, nonroad equipment, locomotives, marine engines, and fuels that are cost-effective and technically feasible. The Agency will continue implementation of the Tier II and gasoline sulfur standards. The Agency will also continue work on the 2007 heavy-duty highway engine and diesel sulfur requirements. In addition, EPA is promulgating new standards and fuel requirements for nonroad diesel fuel that will take effect for new engines starting as early as 2008.

In addition, EPA will continue to monitor industry compliance with vehicle, engine, and fuel standards, and to proceed with advancements in vehicle emission control technologies. The type and amount of testing required at EPA's National Vehicle and Fuel Emissions Laboratory continues to expand greatly to meet the much more stringent and complex regulations for cars, heavy-duty diesel engines, and gasoline and diesel fuels.

Ensure Healthier Indoor Air

In FY 2005, 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.

EPA expects, as a result of Agency programs, that over three quarters of a million people will be living in healthier residential indoor environments in FY 2005. 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.

Greenhouse Gases

The President's greenhouse gas program builds on the accomplishment of EPA's voluntary climate programs. EPA's voluntary climate change programs have made significant progress to date. However, 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.

In FY 2005, EPA will continue to build upon its successful partnership programs such as ENERGY STAR, the clean energy programs, Climate Leaders, SmartWay Transport Partnership, and Best Workplaces for Commuters programs. Under these innovative programs we will expand our work with companies to encourage them to take on new voluntary commitments to reduce greenhouse gas emissions.

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 hydrofluorocarbons.

Radiation

In FY 2005, EPA will continue to protect people and the environment from harmful and avoidable exposure to radiation by oversight of radioactive waste disposal in the Waste Isolation Pilot Plant, setting protective limits on radioactive

emissions, providing guidance and training to other Federal and state agencies in preparing for domestic emergencies and other incidents that may involve radiation, and develop guidance for cleaning up radioactively-contaminated Superfund sites. We will ensure that the Agency employs appropriate methods to manage radioactive releases and exposures. These include health-risk site assessments; risk modeling, cleanup, and waste management activities; voluntary programs to minimize exposure to radiation in commercial products and industrial applications; national environmental radiation monitoring; radiological emergency response; and provision of Federal guidance to our international, Federal, state, and local partners.

Enhance Science and Research

The Tropospheric Ozone and Particulate Matter (PM) Research Programs will upgrade methods and models to guide states in the development of State Implementation Plans (SIPs) used to achieve the NAAQS. In FY 2005, the Agency will release an upgraded version of the Models-3 Community Multi-scale Air Quality (CMAQ) modeling system with upgraded mechanisms for speeding up the model run time. This will be an important tool for developing state and tribal SIPs. PM research will continue to strengthen the scientific basis for the periodic review of the PM NAAQS, through work that includes 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. Important products of the FY 2005 PM research program will include improved receptor models and data on chemical compounds to help identify sources that contribute to ambient PM so that states and tribes can develop more effective control strategies

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 2005, research will focus on providing health hazard and exposure methods, data, and models to enable the Agency to reduce uncertainty in risk assessments, and the production of tools that enable national, regional, state, or local officials to identify and implement cost-effective approaches to reduce risks from sources of air toxics.

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 efficiently.

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.

Resource Summary
(Dollars in thousands)

	FY 2003	FY 2004	FY 2005	FY 2005 Req. v.
	Actuals	Pres. Bud.	Pres. Bud.	FY 2004 Pres Bud
Clean Air and Global Climate Change	\$882,811.6	\$915,983.1	\$1,004,615.5	\$88,632.4
Healthier Outdoor Air	\$557,907.1	\$579,059.2	\$659,876.2	\$80,817.1
Healthier Indoor Air	\$44,299.1	\$48,042.5	\$48,954.7	\$912.1
Protect the Ozone Layer	\$18,145.2	\$19,069.4	\$21,813.7	\$2,744.3
Radiation	\$30,046.8	\$34,858.9	\$34,718.0	(\$141.0)
Reduce Greenhouse Gas Intensity	\$99,836.4	\$106,936.5	\$108,389.3	\$1,452.9
Enhance Science and Research	\$132,577.0	\$128,016.6	\$130,863.6	\$2,847.1
Total Workyears	2,702.6	2,737.9	2,756.6	18.7

OBJECTIVE: Healthier Outdoor Air

Through 2010, EPA and its partners will protect human health and the environment by attaining and maintaining health-based air quality standards and reducing the risk from toxic air pollutants.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Healthier Outdoor Air	\$557,907.1	\$579,059.2	\$659,876.2	\$80,817.1
Environmental Program & Management	\$231,825.3	\$250,509.5	\$261,196.7	\$10,687.3
Science & Technology	\$75,701.8	\$81,059.9	\$85,302.2	\$4,242.3
State and Tribal Assistance Grants	\$243,116.5	\$239,600.0	\$304,600.0	\$65,000.0
Building and Facilities	\$4,583.4	\$4,645.2	\$5003.2	\$358.0
Inspector General	\$2,680.1	\$3,244.6	\$3,774.1	\$529.5
Total Workyears	1,706.6	1,751.5	1,765.9	14.4

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Clean School Bus	\$0.0	\$1,500.0	\$65,000.0	\$63,500.0
Categorical Grant: State and Local Air Quality Management	\$229,633.4	\$228,550.0	\$228,550.0	\$0.0
Children and other Sensitive Populations	\$50.6	\$235.0	\$127.0	(\$108.0)
Categorical Grant: Tribal Air Quality Management	\$13,483.1	\$11,050.0	\$11,050.0	\$0.0
Clean Air Allowance Trading Programs	\$15,667.4	\$21,814.9	\$22,857.5	\$1,042.6
Congressionally Mandated Projects	\$12,724.8	\$0.0	\$0.0	\$0.0
Federal Stationary Source Regulations	\$19,120.1	\$23,702.2	\$24,302.0	\$599.8
Federal Support for Air Quality Management	\$92,966.1	\$96,657.4	\$102,849.9	\$6,192.5
Federal Support for Air Toxics Program	\$28,116.6	\$28,655.1	\$27,358.7	(\$1,296.4)
Federal Vehicle and Fuels Standards and Certification	\$55,525.5	\$60,446.8	\$64,466.5	\$4,019.7
International Capacity Building	\$3,570.0	\$1,541.3	\$1,633.9	\$92.6
Homeland Security: Critical Infrastructure Protection	\$0.0	\$1,106.2	\$1,110.8	\$4.6
Administrative Projects	\$87,049.5	\$103,800.3	\$110,569.9	\$6,769.7
TOTAL	\$557,907.1	\$579,059.2	\$659,876.2	\$80,817.1

ANNUAL PERFORMANCE GOALS AND MEASURES**Reduce Air Toxic Emissions**

- In 2005 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 of 38%.
- 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 End-of-year- FY 2003 data will be available in late 2009 to verify that 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%.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Combined Stationary and Mobile Source Reductions in Air Toxics Emissions	Data Lag	2	1	Percent
Mobile Source Air Toxics Emissions Reduced		.71	.80	Million Tons
Stationary Source Air Toxics Emissions Reduced		1.59	1.59	Million Tons
Major Sources, Area and All Other Air Toxics Emissions Reduced		+.13	+.14	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.

Reduce SO2 Emissions

- In 2005 Keep annual emissions below level authorized by allowance holdings and make progress towards achieving the year 2010 SO2 emissions cap for utilities. Annual emissions reduction target is 6.9 million tons from the 1980 baseline.
- 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 End of year 2003 data will be available in the last quarter of 2004 to verify that annual emissions reduction of approximately 5 million tons from utility sources were maintained or increased during 2003.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
SO ₂ Emissions	Data Lag	5,000,000	6,900,000	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 17.4 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 NO_x Emissions

In 2003 End of year 2003 data will be available in Summer 2004 to verify that the Agency has achieved the annual emission reduction goal.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
NO _x Reductions	Data Lag			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.

Reduce Exposure to Unhealthy Ozone Levels - 1 Hour

In 2005 The number of people living in areas with monitored ambient ozone concentrations below the NAAQS for the 1-hour ozone standard will increase by 4% (relative to 2004) for a cumulative total of 53% (relative to 1992).

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 4% (relative to 2003) for a cumulative total of 47% (relative to 1992).

In 2003 Maintained healthy air quality for approx. 161.5 million people living in monitored areas attaining the ozone std; certified that 5 areas of the remaining 54 nonattainment areas have attained the 1-hour NAAQS for ozone thus increasing the no. of people living in areas with healthy air by 5.8 million.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
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	Data Lag	47	53	Percent
Cumulative Percent Increase in the	Data Lag	55	40	Percent

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Number of Areas with Ambient 1-hour Ozone Concentrations Below the Level of the NAAQS as Compared to 1992				
Total Number of People who Live in Areas Designated to Attainment of the Clean Air Standards for Ozone	161,485,900	167,300,000	174,562,000	People
Areas Designated to Attainment for the Ozone Standard	5	5	6	Areas
Additional People Living in Newly Designated Areas with Demonstrated Attainment of the Ozone Standard	5,800,000	5,800,000	7,276,790	People
VOCs Reduced from Mobile Sources	1,900,000	2,040,000	855,624	Tons
NOx Reduced from Mobile Sources	1,400,000	1,653,000	1,693,259	Tons

Baseline: The 1992 baseline for population is the population in areas not classified or designated as attainment for the clean air national ambient air quality standards. The 1992 baseline for areas is those areas that are designated as non-attainment of the NAAQs. Through FY 2003, 161,485,905 are living in areas designated to attainment; 51 areas are designated to attainment for this/these pollutants. The 2000 MOBILE 6 inventory is used as the baseline year for mobile source emissions as of FY 2005. The 2000 baseline for VOC emissions is 7.7 million tons; the baseline is 11.8 million tons. The 2000 MOBILE 6 inventory is used as the baseline year for mobile source emissions as of FY 2005. The 2000 baseline for VOC emissions is 7.7 million tons; the baseline is 11.8 million tons. Beginning in FY 2004, EPA changed the basis for evaluating progress for this measure to reflect actual measured levels of air quality. Previously, EPA had not defined an area as having clean air until the area was formally classified as having met health-based standards. The procedural requirements for classification may require a year or more to complete. The previous total population numbers were for 2000 - 33.4 million (m) 2001 - 38.2m; 2002 - 41.7m; 2003 - 47.8m.

Reduce Exposure to Unhealthy PM Levels - PM-10

In 2005 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 2004) for a cumulative total of 7% (relative to 1992).

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 6% (relative to 1992).

In 2003 Maintained healthy air quality for 120 million people living in monitored areas attaining the PM standards; increased by 252 thousand the number of people living in areas with healthy air quality that have newly attained the standard.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
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	Data Lag	6	7	Percent

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Cumulative Percent Increase in the Number of Areas with Ambient PM-10 Concentrations Below the Level of the NAAQSas Compared to 1992	Data Lag	40	50	Percent
Total Number of People who Live in Areas Designated in Attainment with Clean Air Standards for PM	120,379,036	120,700,000	122,308,000	People
Areas Designated to Attainment for the PM-10 Standard	5	9	4	Areas
Additional People Living in Newly Designated Areas with Demonstrated Attainment of the PM Standard	252,387	380,000	1,549,648	People
PM-10 Reduced from Mobile Sources	25,000	18,000	62,161	Tons
PM-2.5 Reduced from Mobile Sources	18,000	13,500	61,217	Tons

Baseline: The 1992 baseline for population is the population in areas not classified or designated as attainment for the clean air national ambient air quality standards. The 1992 baseline for areas is those areas that are designated as non-attainment of the NAAQs. Through FY 2003, 120,379,036 are living in areas designated to attainment; 5 areas are designated to attainment for this/these pollutants. The 1995 baseline for PM-10 reduced from mobile sources is 880,000 tons. The 2000 MOBILE 6 inventory is used as the baseline for mobile source emissions as of FY 2005. The 2000 baseline for PM 2.5 from mobile sources is 500,000 tons; the 2000 baseline for PM 2.5 from mobile sources is 613,000 tons. Beginning in FY 2004, EPA changed the basis for evaluating progress for this measure to reflect actual measured levels of air quality. Previously, EPA had not defined an area as having clean air until the area was formally classified as having met health-based standards. The procedural requirements for classification may require a year or more to complete. The previous total population numbers were for 2000 – 1.2 million (m) 2001 – 1.2m; 2002 – 3.4m; 2003 – 6.2m.

Reduce Exposure to Unhealthy CO, SO₂, NO₂, Lead

In 2005 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 2004) for a cumulative total of 53% (relative to 1992).

In 2004 The number of people living in areas with monitored ambient CO, NO₂, SO₂, or Pb concentrations below the NAAQS will increase by 4% (relative to 2003) for a cumulative total of 53% (relative to 1992).

In 2003 Maintained healthy air quality for 53 million people living in monitored areas attaining the CO, SO₂, NO₂, and Lead standards; increased by .74 million the number of people living in areas with healthy air quality that have newly attained the standard.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Cumulative Percent Increase in the Number of People who Live in Areas with		53	53	Percent

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Ambient CO, SO ₂ , NO ₂ , or Pb Concentrations Below the Level of the NAAQS as Compared to 1992				
Cumulative Percent Increase in the Number of Areas with Ambient CO, SO ₂ , NO ₂ , or Pb Concentrations Below the Level of the NAAQS as Compared to 1992		87	77	Percent
Total Number of People Living in Areas Designated in Attainment with Clean Air Standards for CO, SO ₂ , NO ₂ , and Pb	167,860,905	174,000,000	174,222,000	People
Areas Designated to Attainment for the CO, SO ₂ , NO ₂ , and Pb Standards	5	19	8	Areas
Additional People Living in Newly Designated Areas with Demonstrated Attainment of the CO, SO ₂ , NO ₂ , and Pb Standards	435,309	6,150,000	209,991	People
CO Reduced from Mobile Sources		12,636,000	-841,971	Tons
Total Number of People Living in Areas with Demonstrated Attainment of the NO ₂ Standard		n/a	n/a	People

Baseline: The 1992 baseline for population is the population in areas not classified or designated as attainment for the clean air national ambient air quality standards. The 1992 baseline for areas is those areas that are designated as non-attainment of the NAAQS. Through FY 2003, 167,860,905 are living in areas designated to attainment; 108 areas are designated to attainment for this/these pollutants. The 1995 baseline for mobile source emissions for CO was 70,947,000 tons. For mobile sources, the 2000 MOBILE 6 inventory is used as the baseline for FY 2005; the 2000 baseline for CO emissions is 79 million tons. While on-road CO emissions continue to decrease, there is an overall increase in mobile source CO emissions due to a growth in nonroad CO. Beginning in FY 2004, EPA changed the basis for evaluating progress from this measure to reflect actual measured levels of air quality. Previously, EPA had not defined an area as having clean air until the area was formally classified as having met health-based standards. The procedural requirements for classification may require a year or more to complete. The previous total population numbers were for 2000 – 27.7 million (m) 2001 – 36.3m; 2002 – 36.7m; 2003 – 53.7m.

Reduce Exposure to Unhealthy Ozone Levels - 8 Hour

In 2005 The number of people living in areas with monitored ambient ozone concentrations below the NAAQS for the 8-hour ozone standard will increase by 4% (relative to 2004) for a cumulative total of 7% (relative to 2001).

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

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
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Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
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		<1	<1	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		<1	<1	Percent

Baseline: EPA will designate the attainment status for areas in April 2004. With that data, we will have the population baseline as well as the number of areas that are not in attainment for the 8-hour ozone standard.

Reduce Exposure to Unhealthy PM Levels - PM- 2.5

In 2005 The number of people living in areas with monitored ambient PM concentrations below the NAAQS for the PM-2.5 standard will increase by 1% (relative to 2003) for a cumulative total of less than 1% (relative to 2001).

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

In 2003

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
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	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	1	Percent

Baseline: EPA will designate the attainment status for areas in FY 2005. With that data, we will have the population baseline as well as the number of areas that are not in attainment for the PM-2.5 standard.

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 39 tribes monitored air quality for ozone and/or particulate matter; 66% of tribes monitored clean air for ozone and 68% monitored for particulate matter.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Percent of Tribes with Tribal Lands Monitoring for Ozone and/or Particulate Matter	39 tribes	13		Percent
Percent of Monitoring Tribes Monitoring Clean Air for Ozone	66	67		Percent
Percent of Monitoring Tribes Monitoring Clean Air for Particulate Matter	68	72		Percent
Number of Tribes Implementing Air Programs		30		Tribes

Baseline: There are 570 Federally recognized Tribes with 341 Tribes having Tribal lands (Alaska Native Villages (Tribes) number 229 entities but only one 'reservation'). During 2003, 39 Tribes conducted monitoring for ozone and/or particulate matter 15 Tribes monitored their airsheds for ozone (10 of which recorded clean air), and 37 Tribes monitored for particulate matter (25 of which recorded clean air). EPA will continue to work with the Tribes to increase the number and/or percentage of Tribes that monitor for clean air.

Acid Rain

In 2005 Reduce total annual average nitrogen deposition and ambient nitrate concentrations 5% from baseline.

In 2005 Reduce total annual average sulfur deposition and ambient sulfate concentrations 27% from baseline.

In 2004 Reduce total annual average nitrogen deposition and mean ambient nitrate concentrations 5% from baseline.

In 2004 Reduce total annual average sulfur deposition and mean ambient sulfate concentrations 25% from baseline.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
Total Annual Average Sulfur Deposition and Ambient Sulfate concentrations reduced (percent from baseline)		25	27
Total Annual Average Nitrogen Deposition and Ambient Nitrate concentrations reduced (percent from baseline)		5	5

Baseline: Sulfur and nitrogen deposition contribute to acidification of lakes and streams, making them unable to support fish and other aquatic life. Reductions in both total sulfur and nitrogen deposition is critical to reducing the number of chronically acidic water bodies. Ambient sulfate and ambient nitrate ("acid rain particulate") contributes to unhealthy air and respiratory problems in humans, especially children and other sensitive populations. The baseline is established from monitored site levels based on consolidated map of 1989-1991 showing a three year of deposition levels produced from the CASTNet site (<http://www.epa.gov/airmarkets/castnet/sites.html>).

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 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 Emissions Inventory (NEI) for Hazardous Air Pollutants (HAPs)

Data Source: The NEI for HAPs includes emissions from large and small industrial sources inventoried as point sources, smaller stationary area and other sources, such as fires inventoried as non-point sources, and mobile sources.

Prior to 1999 NEI for HAPs, there was the National Toxics Inventory (NTI). 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 NTI and the 1999 NEI for HAPs contain stationary and mobile source estimates that are used as input to National Air Toxics Assessment (NATA) modeling. The 1996 NTI and 1999 NEI for HAPs contain estimates of facility-specific HAP emissions and their source specific parameters necessary for modeling such as location (latitude and longitude) and facility characteristics (stack height, exit velocity, temperature, etc.)

The primary sources of data in the 1996 and 1999 NTI are 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 non-point 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 NTI and 1999 NEI for HAPS underwent 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 NEI for HAPs, please go to the following web site: www.epa.gov/ttn/chief/net/index.html#1999

Methods, Assumptions and Suitability: The EMS-HAP (Emissions Modeling System for Hazardous Air Pollutants) is used to estimate annual emissions of air toxics for the 1996 NTI and 1999 NEI for HAPS (and for all years in-between). EMS-HAP is an emissions processor that performs the steps needed to process an emission inventory for input into the NATA model. These steps include: spatial allocation of nonpoint stationary 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 stationary source 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 sites: <http://www.epa.gov/scram001/tt22.htm#aspen> and <http://www.epa.gov/ttn/chief/emch/projection/emshap.html>. The growth and reduction information used for the projections are further described on the following website: <http://www.epa.gov/ttn/chief/emch/projection/emshap.html>

QA/QC Procedures: The NTI and the NEI for HAPs are databases designed to house information from other primary sources. The EPA performs extensive quality assurance/quality control (QA/QC) activities, including

checking data provided by other organizations, to improve the quality of the emission inventory. Some of these activities include: (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) automated 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: http://www.epa.gov/ttn/chief/emch/invent/qaaugmentationmemo_99nei_60603.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, 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 NEI for HAPs and its final version. For more information on QA/QC of the NEI for HAPs, 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

EPA's Office of Environmental Information (OEI) has created uniform data standards or elements, which provide "meta" information on the standard NEI Input Format (NIF) fields. These standards were developed by teams representing states, Tribes, EPA and other Federal agencies. The use of common data standards among partners fosters consistently defined and formatted data elements and sets of data values, and provides public access to more meaningful data. The standards relevant to the NEI for HAPs are the: SIC/NAICS, Latitude/Longitude, Chemical Identification, Facility Identification, Date, Tribal and Contact Data Standards. The 1999 NEI for HAPs is compliant with all new data standards except the Facility Identification Standard because OEI has not completed its assignment of Facility IDs to the 1999 NEI for HAPs facilities.

For more information on compliance of the NEI for HAPs with new OMB Information Quality Guidelines and new EPA data standards, please refer to the following web site for a paper presented at the 2003 Emission Inventory Conference in San Diego. "The Challenge of Meeting New EPA Data Standards and Information Quality Guidelines in the Development of the 2002 NEI Point Source Data for HAPs", Anne Pope, et al. www.epa.gov/ttn/chief/conference/ei12/dm/pope.pdf

The 2002 NEI for HAPs will undergo scientific peer review.

Data Quality Review: EPA staff, state and local agencies, Tribes, industry and the public review the NTI and the NEI for HAPs. To assist in the review of the 1999 NEI for HAPs, the EPA provided a comparison of data from the three data sources (MACT/residual risk data, TRI, and state, local and Tribal inventories) for each facility. For the 1999 NEI for HAPs, two periods were available for external review - October 2001 - February 2002 and October 2002 - March 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 and the NEI for HAPs contain data from other primary references. Because of the different data sources, not all information in the NTI and the NEI for HAPs 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.

For a discussion of the data limitations in the 1999 NEI for HAPs, please refer to the discussion of Information Quality Guidelines in the documentation at: www.epa.gov/ttn/chief/net/index.html#haps99.

New/Improved Data or Systems: The 1996 NTI and 1999 NEI for HAPs 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 NEI for HAPs by regulatory agencies, environmental interests, and industry, and the greater potential for modeling and trend analysis. During the development of the 1999 NEI for HAPs, 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 and NEI data and documentation are available at the following sites:

ftp site: <ftp://ftp.epa.gov/EmisInventory/>

Available inventories: 1996 NTI, 1999 NEI for HAPs
 Contents: Modeling data files for each state
 Summary data files for nation
 Documentation
 README file

Audience: individuals who want full access to NTI files

NEON: <http://ttnwww.rtpnc.epa.gov/Neon/>

Available inventories: 1996 NTI and 1999 NEI for HAPs
 Contents: Summary data files
 Audience: EPA staff

CHIEF: www.epa.gov/ttn/chief

1999 NEI for HAPs data development materials
 1999 Data Incorporation Plan - describes how EPA compiled the 1999 NEI for HAPs
 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

FY 2005 Performance Measures:

- **SO₂ emissions reduced (tons/year from baseline)**
- **Total annual average sulfur deposition and mean ambient sulfate concentrations reduced (% from baseline)**
- **Total annual average nitrogen deposition and mean ambient nitrate concentrations reduced (% from baseline)**

Performance Databases:

- Emissions Tracking System (ETS) - SO₂ and NO_x emissions collected by Continuous Emission Monitoring Systems (CEMS) or equivalent continuous monitoring methods.
- Clean Air Status and Trends Network (CASTNet) - dry acid deposition; weekly average ambient concentrations of sulfate, nitrate, sulfur dioxide, nitric acid, ammonium; meteorological data required for calculating deposition rates.
- National Atmospheric Deposition Program (NADP) - wet acid (sulfur and nitrogen) deposition.

Data Sources: 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 NO_x Budget Programs under the NO_x State Implementation Plan (SIP) Call. 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 monitoring sites, primarily in the East. CASTNet is a long-term dry deposition network funded, operated and maintained by EPA's Office of Air and Radiation (OAR).

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 precipitation components. Specifically, NADP provides measurements of sulfate and nitrate wet deposition at approximately 230 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.

The deposition monitoring networks have been in operation for over 25 years. They provide invaluable measurements on long-term trends and episodes in acid deposition; such data are essential for assessing progress toward the program's intended environmental and welfare outcomes. These networks are aging and need to be modernized to ensure the continued availability of these direct environmental measures. Much of the equipment is beyond its useful life, replacement parts are difficult to procure, and the data processing is outmoded and expensive. To date, modernization of this network has not been considered a priority. Unless this situation changes, the Agency's ability to assess long-term performance measures will be compromised.

Methods, Assumption, and Suitability: Consistent, well-defined methods for data aggregation and monitor tests have been incorporated into program regulations (40 CFR Part 75 (Continuous Emissions Monitoring). Original final rule issued 58 FR 3701-3757 (Jan 11, 1993). Rule revisions to improve program issued 60 FR 26510 (May 17, 1995), 61 FR 59142 (Nov 20, 1996), 63 FR 57356, 573581 and 57499 (Oct 27, 1998), 64 FR 28564 (May 26, 1999), and 67 FR 40394 (June 12, 2002)).that were promulgated in notice and comment (public) rulemakings. These

methods are used to aggregate data across all affected utilities for each pollutant and related source operating parameters. They specify how to calculate the baseline and test for quality assurance.

QA/QC Procedures: QA/QC requirements in the program regulations require that a series of quality assurance tests are performed at least annually to assure valid 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 compensate for the measurement bias. Further information available on the Internet: <http://www.epa.gov/airmarkets/reporting/index.html>

CASTNet established a Quality Assurance Project Plan (QAPP) in November 2001; The QAPP contains data quality objectives and quality control procedures for accuracy and precision. {U.S. EPA, Office of Air Quality Planning and Standards, *Clean Air Status and Trends Network (CASTNet) Quality Assurance Project Plan* (Research Triangle Park, NC: U.S. EPA, November 2001). Available at <http://www.epa.gov/castnet/library/qapp.html>.

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/index.html> (see *Electronic Data Report Review Process*, *ETS Tolerance Tables*, *Active ETS Error Codes/Messages* and *Range Format Errors*). 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, with corrected deficiencies found during the data review process, must be obtained from sources by a specified deadline. 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 the National Oceanographic Atmospheric Administration (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. CASTNet has no geographic coverage for the middle of the country and very limited coverage in the Northwest.

Error Estimate: None

New/Improved Data or Systems: EPA is investigating ways to modernize aging CASTNet equipment; streamline site operation, data collection and processing methods; reduce system operating costs; and provide a foundation for multipollutant measurement compatible with other networks.

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/arp/index.html/> 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.)

FY 2005 Performance Measures:

- **Cumulative percent increase in the number of people who live in areas with ambient criteria pollutant concentrations below the level of the NAAQS.**
- **Cumulative percent increase in the number of areas with ambient criteria pollutant concentrations below the level of 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-454/R-98-004 Section 15)

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: In January 2002, EPA completed the reengineering of 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 also been enhanced to comply with the Agency's data standards (e.g., latitude/longitude, chemical nomenclature). Beginning in July 2003, agencies submitted air quality data to AQS thru the Agency's Central Data Exchange (CDX). CDX is intended to be the portal through which all environmental data coming to or leaving the Agency will pass.

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 2005 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 (Federal Highway Administration (FHWA)-types), temperature, gasoline properties, and the designs of Inspection/Maintenance (I/M) programs are updated each year. 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. The most recent models for mobile sources are Mobile 6 and Nonroad 2002. (Available on the Internet at <http://www.epa.gov/otaq/models.htm>.)

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, like rulemaking.

The most complete and systematic process for making and recording such mobile source emissions estimates is the “Trends” inventory process executed each year by the Office of Air Quality Planning and Standards’ (OAQPS) Emissions, Monitoring, and Analysis Division (EMAD). The Assessment and Modeling Division, within the Office of Transportation and Air Quality, provides EMAD information and methods for making the mobile source estimates. In addition, EMAD’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. EMAD 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. At irregular intervals as required for regulatory analysis projects, EMAD creates estimates of emissions for future years. When the method for estimating emissions changes significantly, EMAD 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. EMAD 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.

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/>.

STATUTORY AUTHORITIES

Alternative Motor Fuels Act of 1988
Clean Air Act (42 U.S.C. 7401-7671g)
Motor Vehicle Information and Cost Savings Act
National Environmental Policy Act (NEPA)
National Highway System Designation Act

OBJECTIVE: Healthier Indoor Air

By 2008, 22.6 million more Americans than in 1994 will be experiencing healthier indoor air in homes, schools, and office buildings.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Healthier Indoor Air	\$44,299.1	\$48,042.5	\$48,954.7	\$912.1
Environmental Program & Management	\$32,649.2	\$37,916.4	\$38,695.1	\$778.6
Science & Technology	\$1,611.8	\$1,289.0	\$1,367.3	\$78.3
State and Tribal Assistance Grants	\$9,415.3	\$8,150	\$8,150	\$0
Buildings & Facilities	\$417.0	\$414.6	\$465.0	\$50.4
Inspector General	\$205.8	\$272.5	\$277.3	\$4.8
Total Workyears	152.0	149.9	153.2	3.4

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Categorical Grant: Radon	\$9,415.3	\$8,150.0	\$8,150.0	\$0.0
Indoor Air: Asthma Program	\$9,062.6	\$11,097.0	\$11,197.3	\$100.3
Indoor Air: Environment Tobacco Smoke Program	\$2,832.8	\$3,617.5	\$3,695.1	\$77.6
Indoor Air: Radon Program	\$5,843.6	\$5,871.1	\$6,065.6	\$194.5
Indoor Air: Schools and Workplace Program	\$9,005.2	\$11,176.2	\$11,258.2	\$82.0
Administrative Projects	\$8,139.6	\$8,130.7	\$8,588.5	\$457.7
TOTAL	\$44,299.1	\$48,042.5	\$48,954.7	\$912.1

ANNUAL PERFORMANCE GOALS AND MEASURES**Healthier Residential Indoor Air**

- In 2005 843,300 additional people will be living in homes with healthier indoor air.
- In 2004 834,400 additional people will be living in healthier residential indoor environments.
- In 2003 End-of-year FY 2003 data will be available in late 2004 to verify that 834,400 additional people were living in healthier residential indoor environments.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
People Living in Healthier Indoor Air	Data Lag	834,400	843300	People

Baseline: 1. By 2005, increase the number of people living in homes built with radon reducing features to 4,539,000 from 1,862,280 in 1994 (cumulative) . * 2. By 2005, decrease the number of children exposed to ETS from 27,502,000 in 1994 to 24,119,404 (cumulative) . ** 3. By 2005, increase by 500,000 the number of people with asthma and their caregivers who are educated about indoor air asthma triggers. * The 1994 baseline for the number of new homes built with radon-resistant design features has changed from 684,000 to 384,000. This is due to a recent review of historical NAHB Research Center reports which determined that a significant number of "rough-in" installations were reported as radon-resistant new construction. "Rough-in" installations are not complete radon-reduction systems and do not provide any risk reduction, and they should not be considered when estimating the number of homes built with radon-resistant new construction. In order to improve the integrity of the results that are being reported, EPA is dropping homes with rough-in installations when estimating the amount of homes built with radon-resistant construction. The baseline of existing homes mitigated remains the same at 300,000 in 1994.

** The 1995 Census Report that EPA was using for a baseline population (19,500,000) for children 0 to 6 years of age represented only children 0 to 4 years of age. This recently came to our attention after an internal review of the baselines. The actual baseline population of children from the ages of 0 to 6 should be 27,502,168. In order to improve the integrity of the results that are being reported, EPA is correcting the baseline population to the comprehensive number which includes the ages 0 to 6 years old. Our 2005 goal of decreasing the percentage of children exposed, remains at 15% and the starting point remains at 27.3%.

Healthier Indoor Air in Schools

- In 2005 1,312,500 students, faculty and staff will experience improved indoor air quality in their schools.
- In 2004 1,575,000 students, faculty and staff will experience improved indoor air quality in their schools.
- In 2003 End-of-year FY 2003 data will be available in late 2004 to verify that 1,050,000 students, faculty and staff experienced improved indoor air quality in their schools.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Students/Staff Experiencing Improved IAQ in Schools	Data Lag	1,575,000	1312500	Students/Staff

Baseline: The nation has approximately 117,000* schools with an average of 525 students, faculty and staff occupying them for a total baseline population of 61,425,000. 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 15 of the 100 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.)

* According to the U.S. Department of Education National Center for Education Statistics, between 1994 and 2002, 7,000 new schools were built. For the revised strategic plan we increased our baseline to incorporate the increase. Our FY 2008 strategic goal incorporates the additional school.

Healthier Indoor Air in Workplaces

In 2005 150,000 additional office workers will experience improved air quality in their workplaces.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
150,000 additional office workers will experience improved air quality in their workplaces.			150,000	People

Baseline: There are approximately 750,000 office buildings with 12 billion square feet. The mean worker density is 1 office worker per 500 square feet. Therefore, a total of 24 million office workers work in office buildings. Our 2005 goal is to get 5% of all office buildings to adopt good IAQ measures which translates into 1.2 million office workers (cumulative from 1994). Our 2008 goal is to get an additional 3% of all office buildings to adopt good IAQ measures which translates to 720,000 office workers (cumulative at 240,000 per year).

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Overarching Performance Measure: People Living in Healthier Indoor Air

FY 2005 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 over 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 2001, NAHB Research Center reported mailing the survey to about 44,000 active United States home building companies, and received about 2,800 responses which translates to a response rate of about 6.4 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 are 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 6.4 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, "Builder Practices Report: Radon Reducing Features in New Construction 2001," Annual Builder and Consumer Practices Surveys by the NAHB Research Center, Inc., January 2, 2003. Similar report titles exist for prior years.

FY 2005 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 fan manufacturers, EPA relies on the business practices for reporting data.

Data Quality Review: Data are obtained from fan manufacturers. EPA reviews the data to ascertain their reliability and discusses any irregularities with the 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. 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 2005 Performance Measure: Number of people with asthma who have taken steps to reduce their exposure to indoor environmental asthma triggers.

Performance Database: The performance database consists of quarterly Partner status reports used to document the outcomes of individual projects; a media tracking study used to assess behavior change within that sector of the public viewing the public service announcements; and a national telephone survey (*National Survey on Environmental Management of Asthma*) which seeks information about the steps taken by people with asthma, and parents of children with asthma, to minimize exposure to indoor environmental asthma triggers. Additional information about asthma morbidity and mortality in the US is obtained from the Centers for Disease Control and Prevention (CDC). Annual expenditures for health and lost productivity due to asthma are obtained from the National Heart Lung and Blood Institute (NHLBI) Chartbook.

Data Source: Each component of the database has a unique source. Partner status reports are generated by those organizations receiving funding from EPA and are maintained by individual EPA Project Officers. An independent initiative of the Advertising Council provides media tracking of outcomes of all of their public service campaigns and this is publicly available information. The *National Survey on Environmental Management of Asthma* (OMB control number 2060-0490) source is EPA. Data on asthma morbidity and mortality is available from the National Center for Health Statistics at the CDC (www.cdc.gov/nchs). Data on annual expenditures for health and lost productivity due to asthma are obtained from the NHLBI Chartbook (www.nhlbi.nih.gov/resources/docs/02_chtbk.pdf).

Methods, Assumptions and Suitability:

Partner status reports: EPA requires all funded organizations to provide quarterly reports identifying the numbers of children, adults, and health care professionals educated about indoor asthma triggers, the numbers of homes, schools, and child care centers in which triggers have been identified, and the type of mitigation actions taken in these environments. In addition, decreases in the number of emergency room visits, hospitalizations, and other markers of asthma morbidity are requested from those partner organizations with access to such data. EPA believes that the information reflects progress made at achieving performance measures.

National Survey on Environmental Management of Asthma: (OMB control number 2060-0490): This survey is the most robust data set for this performance measure, but it is not administered annually. EPA has designed a survey instrument (telephonic survey) in consultation with staff from EPA and the CDC 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. In addition, care has been taken to ensure that the survey questions target the population with asthma by using the same qualifier question that appears on other national surveys on asthma collected by the CDC.

EPA estimates that of the 26,600 households which make up the sampling frame, 60 percent, or approximately 16,000, will be contacted successfully and will agree to participate in the screening survey. Of these approximately 16,000 individuals, EPA expects that 15 percent, or approximately 2,400 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.

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 information collected may be used to establish a baseline to accurately reflect the characteristics of our nation's asthma population and by which to evaluate progress made at achieving performance measures.

QA/QC Procedures: It is assumed that partner organizations report data as accurately and completely as possible; site-visits are conducted by EPA project officers as warranted. The National 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 from all sources in the performance database to ascertain reliability and resolves any discrepancies.

Data Limitations: The primary limitation associated with Partner organization status reporting is that limitation inherent to self-reporting. For the National Survey, 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 (i.e., 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. In addition, a telephone survey is limited to those households with a telephone.

Error Estimate: The Agency expects to achieve results within the following percentage points of the true value at the 90 percent confidence level (survey instrument):

Adult Asthmatics	plus or minus 3.0%
Child Asthmatics	plus or minus 4.0%
Low Income Adult Asthmatics	plus or minus 6.5%

These precision rates are sufficient to characterize the extent to which the results measured by the survey accurately reflect the characteristics of our nation's asthmatic population.

New/Improved Data or Systems: Data from the *National Survey on Environmental Management of Asthma* (OMB control number 2060-0490) was collected from August 4-September 17, 2003 and represents the first data collection with this instrument.

References: National Center for Health Statistics, Centers for Disease Control and Prevention (www.cdc.gov/nchs)

NHLBI Chartbook (www.nhlbi.nih.gov/resources/docs/02_chtbk.pdf).

EPA Indoor Environments Division (www.epa.gov/iaq/).

Survey results will be available in early March 2004. Questions may be directed to the Indoor Environment Division.

FY 2005 Performance Measure: Number of Children under 6 not Exposed to Secondhand Smoke (ShS) in the Home.

Performance Databases: The performance database consists of Smoke-free Home Pledges that are tracked through a hotline and website and that are documented in a monthly pledge report generated by EPA staff; Cooperative Agreement Partner status reports used to document the outcomes of individual projects; a media tracking study used to assess behavior change within that sector of the public viewing ShS public service announcements; and a national telephone survey (*National Survey on Environmental Management of Asthma*) which includes a series of questions about whether respondents allow smoking in their home, and if so, whether young children are in the household. Expenditures for medical costs of childhood illness attributable to ShS were taken from an analysis of previous studies and reports on medical costs. Information about ShS in the US is obtained periodically from the Centers for Disease Control and Prevention (CDC) including the National Health Interview Survey (for use in benchmarking and national tobacco/ShS exposure data), the National Health and Nutrition Examination Survey (for use of cotinine data), and the Behavioral Risk Factor Surveillance Survey (for use of state tobacco/ShS exposure data).

Data Sources: Each component of the database has a unique source. Partner status reports are generated by those organizations receiving funding from EPA and are maintained by individual EPA Project Officers. As part of their Cooperative Agreement, Consumer Federation of America Foundation provides media tracking of outcomes of all of their public service campaigns and this is publicly available information. The *National Survey on Environmental Management of Asthma* (OMB control number 2060-0490) source is EPA. The medical costs associated with SHS were from 2002 *Medical Costs of Childhood Illness Attributable to Environmental Tobacco Smoke: Total National Costs and Cost to Managed Care Organizations*, a report prepared by Abt Associates Inc., an EPA funded contractor. Additional references are the US Surgeon General's report on tobacco (which includes the 1986 seminal document on involuntary smoking and demographic profiles of smoking/ShS exposure in US), the National Cancer Institute's (NCI) *Tobacco Monograph Series* (the sum of current knowledge of clinical trials, clinical guidelines and the validation of EPA and California EPA risk assessments), the NCI funded *Tobacco Use Supplement* portion of the US Census Bureau's *Current Population Survey* (contains fundamental policy questions regarding tobacco/ShS including smoking in the home), and *Healthy People 2010* (which includes information on cotinine, ShS exposure and children).

Other related sources: National Health Interview Survey and National Health and Nutrition Examination Survey are part of the National Center for Health Statistics, Centers for Disease Control and Prevention (<http://www.cdc.gov/nchs>); Behavioral Risk Factor Surveillance Survey, Centers for Disease Control and Prevention (<http://www.cdc.gov/brfss/index.htm>).

This information contributes to the knowledge set that helps us to calculate end of year results.

Methods, Assumptions and Suitability: *Partner status reports:* EPA requires all funded organizations to provide status reports on their activities identifying, for example, number of presentations given, pledges signed, number of people trained (i.e. health officials, daycare providers), number of parents reached, and projected number of children no longer exposed as a result of their activities. EPA believes that the information reflects progress made at achieving performance objectives.

National Survey on Environmental Management of Asthma (OMB control number 2060-0490): This survey is the most robust data set for the FY 2005 performance measure, however it is not administered annually. EPA has designed a survey instrument (telephonic survey) in consultation with staff from EPA's Indoor Environments Division (IED), EPA's Regional offices, and the CDC 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 26,600 households, which make up the sampling frame, 60 percent, or approximately 16,000, will be contacted successfully and will agree to participate in the screening survey. SHS information will be obtained from these individuals. The sample will be large enough to yield the number of responses necessary to achieve an estimated two percent precision rate at a 95 percent confidence level.

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. 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. EPA believes that the information collected may be useful in establishing a benchmark, in addition to the 1994 and 1998 National Health Interview Survey, for the number of children, ages 6 and under, who are exposed to ShS in the home.

QA/QC Procedures: It is assumed that partner organizations report data as accurately and completely as possible; site-visits are conducted by EPA project officers as warranted. The National Survey was 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 from all sources in the performance database to ascertain reliability and resolves any discrepancies.

Data Limitations: The primary limitation associated with Cooperative Agreement Partner status reporting is that self-reporting has an inherent limitation. For the National Survey, 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 in voluntary telephone surveys of representative samples. Limitations of phone surveys include: 1) possible 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. In addition, a telephone survey is limited to those households with a telephone or households that speak English. Currently available cotinine survey data does not address 50% of the age specific portion of EPA's target population. It does not include birth to three years old, the portion of children most susceptible to the effects of ShS.

Error Estimate: EPA's survey has been designed to ensure that, at the 95 percent confidence level, its estimate of the number of children fewer than 6 not exposed to ShS in the house is within approximately two percentage points of the true value. EPA is confident that these precision rates are more than adequate.

New/Improved Data or Systems: Data from the *National Survey on Environmental Management of Asthma* (OMB control number 2060-0490) was collected from August 4-September 17, 2003 and represents the first data collection with this instrument. This survey utilized the exact questions on SHS from the 1994 and 1998 National Health Interview Survey and will continue to assist in evaluating progress made at achieving our goal. In the future, medical cost data could be collected from a possible expansion of CDC's Smoking Attributable Morbidity and Mortality Economic Costs (SAMMEC) software.

References: EPA Indoor Environments Division (www.epa.gov/iaq/) Survey results will be available in early March 2004. Questions may be directed to the Indoor Environments Division.

National Health Interview Survey and National Health and Nutrition Examination Survey are part of the National Center for Health Statistics, Centers for Disease Control and Prevention (<http://www.cdc.gov/nchs>)

Behavioral Risk Factor Surveillance Survey, Centers for Disease Control and Prevention (<http://www.cdc.gov/brfss/index.htm>),

US Surgeon General's report on tobacco (<http://www.cdc.gov/tobacco/sgr/index.htm>),

National Cancer Institute's (NCI) *Tobacco Monograph Series* (<http://cancercontrol.cancer.gov/tcrb/monographs/>),

NCI funded *Tobacco Use Supplement* portion of the US Census Bureau's *Current Population Survey* (<http://riskfactor.cancer.gov/studies/tus-cps/>),

Healthy People 2010 (<http://www.healthypeople.gov/>).

FY 2005 Performance Measure: Students, faculty and staff experiencing improved indoor air quality in their schools

Performance Database: The performance database consists of cooperative partner status reports, annual results reports from the regions, and tracking numbers of disseminated kits. A survey of a representative sample of schools was completed during 2002. The survey serves to verify the number of schools using indoor air quality management plans consistent with EPA's guidance.

Data Source: The sources for the database include cooperative partners, regional data, information from EPA's National Clearinghouse on numbers of kits disseminated, and the statistical sample of all public and private schools in the nation during the 1999 – 2000 school year. (United States Department of Education National Center for Education Statistics).

Methods, Assumptions and Suitability: Calculations for the number of people experiencing improved IAQ are based upon an estimated average of 525 students, staff and faculty per school (data are from the United States Department of Education National Center for Education Statistics). Estimates of the number of schools implementing IAQ management plans, consistent with EPA's guidance, are conservative, and based upon a small percentage of the number of kits distributed, and the number of schools implementing IAQ management plans reported by cooperative partners and regions. A total of 809 completed questionnaires were returned for a survey response rate of 40%. There was no evidence of systematic error or selection bias associated with the response rate. The survey helped determine the number of schools adopting and implementing good indoor air quality (IAQ) practices consistent with EPA's IAQ Tools for Schools (TfS) guidance.

The distribution of returned and targeted questionnaires was similar with respect to the stratification criteria of geographic region and public/private schools. Academic resource, demographic, and socioeconomic characteristics of schools that returned the survey were approximately equal to those of schools that did not return the questionnaire. IAQ management practices were independent of the amount of follow-up effort required to elicit return of a questionnaire. These findings indicate that the EPA can use the survey results to make national projections regarding IAQ practices in schools.

Survey results were evaluated against the IAQ Practice Index, a scoring system developed by weighting possible responses to questions regarding Integrated Pest Management (IPM) practices and ventilation rates. An IAQ Practice Index score of ≥ 70 was considered indicative of an adequate IAQ management plan.

QA/QC Procedures: A small sample of returned questionnaires was selected at random and the manual data transcription from the original paper copy to the electronic database was reviewed for completeness and accuracy. A total of 3,670 entries were cross-referenced between the database and the paper copy of the survey. A few minor typographical errors in results from the first page of the questionnaire were identified (e.g., a period missing in P.O. Box or letters inverted in a name). Otherwise, all responses to the actual survey questions were accurately entered into the database.

As a quality control procedure, a random sample of surveys was scored manually and the IAQ Management Practice Index was computed by hand. The scores and indices were compared to the corresponding values generated by the computerized scoring program. In total, 140 data points were checked. The results of all the surveys that were hand-scored matched the values from the computerized scoring. In addition, the *IAQ Practices in Schools Survey Analysis* procedures and report underwent technical review by a qualified party at Environmental Health and Engineering, Inc. (EH&E), EPA's contractor, not involved in the original analysis. 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: Entries were cross-referenced between the database and the paper copy of the survey to ensure completeness and quality of responses. See QA/QC procedures, above.

Data Limitations: The primary limitation associated with Cooperative Agreement Partner status reporting is that self-reporting has an inherent limitation. For the National Survey, 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 in voluntary telephone surveys of representative samples. Limitations of phone surveys include: 1)

possible 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. In addition, a telephone survey is limited to those households with a telephone or households that speak English.

Error Estimate: The sample size was selected to ensure that the survey response yields a statistically valid result with a +/- three percent margin of error at the 95th percent confidence level.

New/Improved Data or Systems: Prior to the survey, EPA tracked the number of schools receiving the Tools for Schools (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 queried 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.

FY 2005 Performance Measure: Office Workers improved indoor air quality in their workplaces.

Performance Database: The performance database consists of two sources, requested copies of building indoor air quality guidance documents, (e.g. Building Air Quality, I-Beam, and related guidance Mold Remediation in Schools and Commercial Buildings) and training conducted through cooperative agreements or other government agencies (e.g., General Services Administration (GSA)) using EPA's documents. In addition, EPA conducted a voluntary, pilot survey of building owners and managers in 2001 to determine the use of indoor air quality (IAQ) management practices in U.S. office buildings.

Data Source: The survey was developed by EPA and distributed by Building Owners and Managers Association (BOMA). The survey's purpose and design received approval from the Office of Management and Budget. The survey is not administered on an annual basis.

Methods, Assumptions and Suitability: EPA developed a seven-page survey of multiple-choice questions that requested each building owner or manager to supply information regarding: the size and uses of a selected building; documentation of management practices employed in the building; how the heating, ventilating, and air-conditioning systems are managed; how pollution sources are addressed; housekeeping and pest management practices; remodeling and renovation activities; and responses to tenant complaints regarding IAQ. EPA's contractor developed a project database to facilitate entry, storage and reporting statistics obtained from the survey. Based upon random sampling of membership lists from BOMA, the International Facilities Managers Association (IFMA) and buildings managed by the General Services Administration (GSA), the contractor generated a sampling frame. The final sample size, (and survey recipient list) was 3,612 and we received 591 completed surveys. The survey results identified both strengths and weaknesses in building management practices in U.S. office buildings.

QA/QC Procedures: The survey was focus group tested and peer-reviewed by IAQ professionals to ensure that respondents would understand the questions and provide accurate responses. It was also designed by a statistician to ensure reliability of the data collected. Each survey mailed was assigned a unique identifier to facilitate the tracking of survey responses within the database. BOMA, EPA's cooperative partner, ensured accuracy and completeness of submitted surveys by reviewing each submission prior to data entry. A double-entry protocol for all data entry was implemented to ensure an accuracy rate of at least 99%; each survey form was entered into the database twice, after which a computer program identified any variances. Two-percent of the records were randomly checked to ensure that accuracy goals were met. BOMA was responsible for tracking survey responses, entering the survey responses into the database, maintaining the data in a secure environment and providing quality assurance/quality control of all survey activities.

After the quality assurance checks on the data were performed, EPA's contractor aggregated the data analyses. EPA and the contractor developed a method to score the responses for each item on the questionnaire and computed an index of IAQ management practices. The quality of the scoring program results was assured by random inspection and correction, if necessary. The IAQ indices were analyzed using analysis-of-variance techniques to identify covariates of IAQ practices that could be used in considering future program initiatives.

Data Quality Review: BOMA had responsibility for the accuracy of data entered into the database. Quality assurance safeguards were used in the data entry. BOMA, and EPA's contractor reviewed individual survey responses and data for accuracy during the aggregation and analyses activities.

Data Limitations: The primary limitation associated with basing estimates on requests for guidance documents and training is the unknown factor of how many of the requests result in actions resulting in improved indoor air quality. The survey provides a reference point on progress. The survey results are subject to the limitations inherent in survey sampling. The response rate of 14% for the survey was low due to the timing of the survey administration and subsequent events in September and October 2001.

Error Estimate: 4% precision at a 95% confidence level.

New/Improved Data or Systems: None

References: There is no website specifically relating to this survey. Inquiries may be made directly to EPA's Office of Air and Radiation, Indoor Environments Division.

STATUTORY AUTHORITIES

Clean Air Act Amendments of 1990 (CAA)

Indoor Radon Abatement Act (IRAA), Section 306

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), and Section 10

OBJECTIVE: Protect the Ozone Layer

By 2010, through worldwide action, ozone concentrations in the stratosphere will have stopped declining and slowly begun the slow process of recovery, and the risk to human health from overexposure to ultraviolet (UV) radiation, particularly among susceptible subpopulations, such as children, will be reduced

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Protect the Ozone Layer	\$18,145.2	\$19,069.4	\$21,813.7	\$2,744.3
Environmental Program & Management	\$17,892.5	\$18,802.0	\$21,516.2	\$2,714.2
Buildings & Facilities	\$164.4	\$152.8	\$164.7	\$11.9
Inspector General	\$88.3	\$114.6	\$132.8	\$18.2
Total Workyears	39.2	36.1	36.7	0.6

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Stratospheric Ozone: Domestic Programs	\$5,994.8	\$5,786.6	\$5,839.6	\$53.0
Stratospheric Ozone: Multilateral Fund	\$9,518.9	\$11,000.0	\$13,500.0	\$2,500.0
Administrative Projects	\$2,631.5	\$2,282.8	\$2,474.1	\$191.3
TOTAL	\$18,145.2	\$19,069.4	\$21,813.7	\$2,744.3

ANNUAL PERFORMANCE GOALS AND MEASURES

Restrict Domestic Consumption of Class II HCFCs

- In 2005 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 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 End of year FY 2003 data will be available in late 2004 to verify restriction of domestic consumption of class II HCFCs below 9,906 ODP-weighted metric tonnes (ODP MTs) and restriction of domestic exempted production and import of newly produced class I CFCs and halons below 10,000 ODP MTs.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Domestic Consumption of Class II HCFCs	Data Lag	<9,906	<9,906	ODP MTs
Domestic Exempted Production and Import of Newly Produced Class I CFC s and Halons	Data Lag	<10,000	<10,000	ODP MTs

Baseline: The base of comparison for assessing progress on the 2005 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 2005 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 at: <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) completed a review of U.S. participation in five international environmental agreements, and analyzed data submissions from the U.S. under the Montreal Protocol on Substances that Deplete the Ozone Layer. No deficiencies were identified in their January 2003 report.

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 ODSs. See <http://www.unep.ch/ozone/montreal.shtml> for additional information about the Montreal Protocol. See <http://www.unmfs.org/> for more information about the Multilateral Fund.

EFFICIENCY MEASURES/MEASUREMENT DEVELOPMENT PLANS

EPA continues to place a great emphasis on improving its performance measures. In addition to and complementing the Agency's outcome-based environmental performance measures, some programs are developing efficiency measures. Efficiency measures are structured as a ratio of key program inputs (e.g. time, dollars, FTE) to program outputs or outcomes. They are intended to provide EPA programs with additional information that can be used for sound decision-making and program management.

Below are EPA's proposed efficiency measures for selected programs.

Stratospheric Ozone: For every \$50 invested by EPA in the domestic ODS phaseout program and the Multilateral Fund, the US will avoid 1 skin cancer fatality related to UV radiation exposure. This outcome assumes that the US and other Parties to the Montreal Protocol achieve planned phaseout targets, and that present funding levels are continued.

STATUTORY AUTHORITIES

Clean Air Act Amendments of 1990 (CAA), Title I, Parts A and D (42U.S.C. 7401-7434, 7501-7515), Title V (42 U.S.C. 7661-7661f), and Title VI (42 U.S.C. 7671-7671q)

Pollution Prevention Act of 1990 (42 U.S.C. 13101-13109)

Resource Conservation and Recovery Act (42 U.S.C. 6921-6926 and 6938) sections 3001-3006 and 3017

The Montreal Protocol on Substances that Deplete the Ozone Layer

OBJECTIVE: Radiation

Through 2008, working with partners, EPA will minimize unnecessary releases of radiation and be prepared to minimize impacts to human health and the environment should unwanted releases occur.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Radiation	\$30,046.8	\$34,858.9	\$34,718.0	(\$141.0)
Environmental Program & Management	\$19,881.9	\$21,060.8	\$20,914.1	(\$146.7)
Hazardous Substance Superfund	\$3,058.4	\$3,027.2	\$3,207.1	\$179.8
Science & Technology	\$6,284.3	\$9,797.7	\$9,574.9	(\$222.8)
Building & Facilities	\$715.4	\$817.4	\$868.7	\$51.3
Inspector General	\$106.6	\$155.8	\$153.2	(\$2.6)
Total Workyears	168.1	185.0	183.9	-1.2

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Radiation: Protection	\$15,743.2	\$17,392.7	\$15,620.4	(\$1,772.3)
Radiation: Response Preparedness	\$4,128.8	\$4,081.2	\$4,849.9	\$768.7
Homeland Security: Preparedness, Response, and Recovery	\$998.3	\$3,703.6	\$4,144.3	\$440.7
Administrative Projects	\$9,176.5	\$9,681.4	\$10,103.4	\$421.9
TOTAL	\$30,046.8	\$34,858.9	\$34,718.0	(\$141.0)

ANNUAL PERFORMANCE GOALS AND MEASURES

Ensure WIPP Safety

- In 2005 Certify that 40,000 55-gallon drums of radioactive waste (containing approximately 120,000 curies) shipped by DOE to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards.
- In 2004 Certify that 36,000 55-gallon drums of radioactive waste (containing approximately 108,000 curies) shipped by DOE to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards.
- In 2003 36,041 drums (55 gallon) of radioactive waste shipped by DOE to the Waste Isolation Pilot Plant were permanently disposed of safely and according to EPA standards.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Number of 55-Gallon Drums of Radioactive Waste Disposed of According to EPA Standards	36,041	36,000	40,000	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 2003, approximately 73,000 (cumulative) 55 gallon drums will be safely disposed. In FY 2005, EPA expects that DOE will ship an additional 40,000 55-gallon drums of waste. Through FY 2004, EPA expects that DOE will have shipped safely and according to EPA standards, approximately 13% 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.

Build National Radiation Monitoring System

- In 2005 EPA will purchase 60 additional state of the art monitoring units and initiate deployment to sites selected based on population and geographical coverage. All old sampling will be replaced and population coverage will be expanded to 60%.
- 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 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Purchase and Deploy State-of-the Art Monitoring Units		60	60	Units Purchased

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 24% 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 60% of the population. The current system's air samplers will be retired from service due to age, although some may be retained for emergency use.

Homeland Security - Readiness & Response

- In 2005 Verify that 50 percent of EPA's Radiological Emergency Response Team (RERT) members meet scenario-based response criteria.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Percentage of EPA RERT members that meet scenario-based criteria			50	Percent

Baseline: Currently, EPA assesses RERT readiness based on the ability of the RERT to: (1) provide effective field response, as defined today; (2) support coordination centers; and 3) provide analytical capabilities throughout as needed to support a single small-to-medium scale incident. These evaluation criteria will be reevaluated and revised in response to the Department of Homeland Security development of criteria for the Nuclear Incident Response Team established under the Homeland Security Act of 2002, which includes EPA RERT assets.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES**FY 2005 Performance Measure: Purchase and Deploy State-of-Art Monitoring Units**

Performance Data: Output Measure. Data from the near real-time gamma component of the Environmental Radiation Ambient Monitoring System (ERAMS) will be stored in an internal EPA database at the National Air and Radiation Environmental Laboratory (NAREL) in Montgomery, Alabama. EPA monitors for radiation to provide data for nuclear and radiological 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: Environmental Radiation Ambient Monitoring System (ERAMS). A total of 60 near real-time monitoring units will provide data to the database at NAREL.

Methods, Assumptions and Suitability: Assuming that funding is secured during future years and the project receives all necessary approvals, the existing air sampling equipment will be replaced with state-of-the art air monitors that include near real-time gamma radiation detection capability. Addition of detectors and communication systems will provide notification about significant radioactive contamination events to decision-makers within hours

QA/QC Procedures: Quality Assurance and Quality Control Procedures will follow the Agency guidelines and be consistent with a specific Quality Assurance Plan that is being developed for the project. All monitoring equipment will be periodically calibrated with reliable standards and routinely checked for accuracy with onsite testing devices. Laboratory analyses of air filters and other environmental media are closely controlled in compliance with the NAREL Quality Management Plan and applicable Standard Operating Procedures.

Data Quality Reviews: The database will screen all incoming data from the monitoring systems for abnormalities as an indicator of either a contamination event or an instrument malfunction. Data will be held in a secure portion of the database until verified by trained personnel. Copies of quality assurance and quality control testing will also be maintained to assure the quality of the data.

Data Limitations: Data are limited in near real-time to gamma emitting radionuclide identification and quantification. Radiation levels from gamma-emitting nuclides that will be so low as to be “undetectable” will be significantly below health concerns that require immediate action. Lower levels of radioactive materials in the samples will be measured through laboratory based analyses and data will be available within days after the sample is received. Data will not be available to the general public or others, except relevant decision-makers, until verified by trained personnel.

Error Estimate: The overall error in detection capability is estimated to be within 50% of the actual concentration based on previous experience with similar measurement systems. An error analysis will be performed on the prototype systems during the process of detector selection.

New/Improved Performance Data or Systems: New air samplers will maintain steady flow rates that are measured during operation and corrected for varying environmental conditions. Addition of gamma spectrometric detectors and computer-based multi-channel analyzers to the air samplers provide near real-time analyses of radioactive content in particles captured by the filter. In addition to data collection, the onboard computer systems can communicate results of analyses back to a central database and even identify abnormal conditions that might require action. These improvements not only include higher quality data, but also will provide information regarding contamination events to decision-makers within hours instead of days. The number and location of monitoring sites will be improved to provide representative sampling for much more of the nation’s population.

References: For a additional information about the continuous monitoring system, ERAMS see: <http://www.epa.gov/narel/erams/aboutus.html#mission>

FY 2005 Performance Measure: 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 regulatory responsibility for determining whether the facility complies with radioactive waste disposal standards.

Data Source: Department of Energy

Methods, Assumptions and Suitability: N/A

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 Quality Reviews: N/A

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 60 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.

FY 2005 Performance Measure: Percentage of EPA RERT members that meet scenario-based criteria.

Performance Data: To determine the effectiveness of RERT performance, an output measure has been developed that scores RERT members on a scale of one (1) to 100 against scenario-based criteria. A baseline evaluation was performed in Fiscal Year (FY) 2003, based on the effectiveness of the RERT in responses to actual incidents and a major national exercise (TOPOFF2). RERT members were evaluated in their ability to: (1) provide effective field response, (2) support coordination centers, and (3) provide analytical capabilities and throughput as needed to support a single small-to-medium scale incident. Overall RERT effectiveness in this baseline analysis was measured at approximately 13 percent. In FY 2005, however, the evaluation criteria will need to be reevaluated and revised in response to the changes enacted by the Homeland Security Act of 2002. Under this Act, the Department of Homeland Security (DHS) is required to develop evaluation criteria and test the effectiveness of the Nuclear Incident Response Team (NIRT), which will include EPA RERT assets. Thus, the output measure tentatively outlined above will be modified in cooperation with DHS to meet their needs.

Data Source: Beginning in FY 2005, EPA expects the Department of Homeland Security to maintain the data. DHS is responsible for assuring that all Federal Emergency Response assets maintain an adequate level of readiness (Homeland Security Act of 2002). EPA assumes they also will maintain a data system to evaluate and assess the readiness of assets across the federal government. EPA will perform evaluations of its own assets and report results under this measure, but must rely on the DHS data source for key information.

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: N/A

Data Limitations: The expectations for performance of EPA's RERT are currently evolving. Under Section 501 of the Homeland Security Act of 2002, Department of State's (DOS) Under Secretary for Emergency Preparedness and Response will establish standards for EPA RERT assets as part of the new Nuclear Incident Response Team. DHS will also evaluate the NIRT's performance against these new standards. These criteria have not yet been developed. In addition, the requirements for the RERT (i.e., what is actually expected of RERT members during a response) may also change. This uncertainty means that the current evaluation may not effectively reflect future criteria.

New/Improved Data or Systems: None

References: The Homeland Security Act of 2002

STATUTORY AUTHORITIES

Atomic Energy Act of 1954, as amended, 42 U.S.C 2011 et seq. (1970), and Reorganization Plan #3 of 1970
Clean Air Act Amendments of 1990 (CAA)
Comprehensive Environmental Response Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA)
Energy Policy Act of 1992, P.L. 102-486
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.
Nuclear Waste Policy Act of 1982
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
Title X IV of the National Defense Authorization Act of 1996 (Nunn-Lugar II)
Uranium Mill Tailings Radiation Land Withdrawal Act of 1978
Waste Isolation Pilot Plan (WIPP) Land Withdrawal Act

OBJECTIVE: Reduce Greenhouse Gas Intensity

Through EPA's voluntary climate protection programs, contribute 45 million metric tons of carbon equivalent (MMTCE) annually to the President's 18 percent greenhouse gas intensity improvement goal by 2012. (An additional 75 MMTCE to result from the sustained growth in the climate programs are reflected in the Administration's business-as-usual projection for greenhouse gas intensity improvement.)

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Reduce Greenhouse Gas Intensity	\$99,836.4	\$106,936.5	\$108,389.3	\$1,452.9
Environmental Program & Management	\$97,647.6	\$105,343.7	\$106,712.6	\$1,368.9
Science & Technology	\$750.0	\$0.0	\$0.0	\$0
Buildings & Facilities	\$965.4	\$969.6	\$1,044.9	\$75.4
Inspector General	\$473.5	\$623.2	\$631.8	\$8.6
Total Workyears	251.3	244.1	244.6	0.5

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Climate Protection Program	\$82,169.5	\$91,289.6	\$91,961.3	\$671.7
Congressionally Mandated Projects	\$1,018.2	\$0.0	\$0.0	\$0.0
Administrative Projects	\$16,648.7	\$15,646.9	\$16,428.0	\$781.2
TOTAL	\$99,836.4	\$106,936.5	\$108,389.3	\$1,452.9

ANNUAL PERFORMANCE GOALS AND MEASURES

Reduce Greenhouse Gas Emissions

- In 2005 Greenhouse gas emissions will be reduced from projected levels by approximately 90 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.
- 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 End of year FY 2003 data will be available in mid-2004 to verify that 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.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Annual Greenhouse Gas Reductions - All EPA Programs	Data Lag	81.0	90.2	MMTCE
Greenhouse Gas Reductions from EPA's Buildings Sector Programs (ENERGY STAR)	Data Lag	21.4	23.8	MMTCE
Greenhouse Gas Reductions from EPA's Industrial Efficiency/Waste Management Programs	Data Lag	7.3	8	MMTCE
Greenhouse Gas Reductions from EPA's Industrial Methane Outreach Programs	Data Lag	18.1	19.1	MMTCE
Greenhouse Gas Reductions from EPA's Industrial HFC/PFC Programs	Data Lag	29.6	34.4	MMTCE
Greenhouse Gas Reductions from EPA's Transportation Programs	Data Lag	2.6	2.9	MMTCE
Greenhouse Gas Reductions from EPA's State and Local Programs	Data Lag	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) and from EPA's Integrated Planning Model of the U.S. electric power sector. 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 2005 Reduce energy consumption from projected levels by more than 120 billion kilowatt hours, contributing to over \$8.5 billion in energy savings to consumers and businesses.

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 End of year FY 2003 data will be available in late 2004 to verify the reduction in 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.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Annual Energy Savings - All EPA Programs	Data Lag	110	120	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) and from EPA's Integrated Planning Model of the U.S. electric power sector. 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.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 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) and from EPA's Integrated Planning Model of the U.S. electric power sector. 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., million metric tons carbon equivalent (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 Greenhouse Gas (GHG) emissions, and peer-reviewed methodologies are used to calculate GHG reductions from these programs.

Data Quality Review: The Administration evaluates its climate programs using an interagency approach. The second such interagency evaluation included participants from EPA and the Departments of State, Energy, Commerce, Transportation, and Agriculture. 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 *Change for the Better: Energy Star and Other Voluntary Programs*, Climate Protection Partnerships Division 2002 Annual Report.

FY 2005 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 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 voluntary programs are documented in the Climate Protection Partnerships Division Annual Report. The most recent version is *Change for the Better: Energy Star and Other Voluntary Programs*, Climate Protection Partnerships Division 2002 Annual Report.

STATUTORY AUTHORITIES

Clean Air Act Amendments, 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

Federal Technology Transfer Act, 15 U.S.C. - Section 3701a

Global Climate Protection Act, 15 U.S.C. 2901 - Section 1103

National Environmental Policy Act, 42 U.S.C. 4321 et seq. - Section 102

Pollution Prevention Act, 42 U.S.C. 13101 et seq. - Sections 6602, 6603, 6604, and 6605

Solid Waste Disposal Act, 42 U.S.C. 6901 et seq. - Section 8001

OBJECTIVE: Enhance Science and Research

Through 2010, provide and apply sound science to support EPA's goal of clean air by conducting leading-edge research and developing a better understanding and characterization of environmental outcomes under Goal 1.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Enhance Science and Research	\$132,577.0	\$128,016.6	\$130,863.6	\$2,847.1
Environmental Program & Management	\$16,904.8	\$18,216.5	\$18,723.8	\$507.4
Science & Technology	\$113,313.3	\$107,353.4	\$109,544.0	\$2,190.6
Buildings and Facilities	\$1715.0	\$1,710.5	\$1,840.5	\$130.0
Inspector General	\$643.9	\$736.2	\$755.3	\$19.1
Total Workyears	385.2	371.2	372.4	1.1

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Climate Protection Program	\$19,588.0	\$17,320.3	\$17,458.9	\$138.6
Radiation: Protection	\$1,367.0	\$1,472.1	\$1,361.5	(\$110.6)
Research: Air Toxics	\$14,257.2	\$15,700.9	\$17,638.9	\$1,938.0
Research: Particulate Matter	\$64,437.9	\$63,620.6	\$63,690.8	\$70.2
Research: Troposphere Ozone	\$4,804.2	\$4,942.3	\$4,900.9	(\$41.4)
Clean Air Allowance Trading Programs	\$4,042.7	\$3,991.2	\$3,991.2	\$0.0
Congressionally Mandated Projects	\$3,810.2	\$0.0	\$0.0	\$0.0
Federal Support for Air Quality Management	\$408.0	\$380.7	\$482.4	\$101.7
Federal Support for Air Toxics Program	\$402.0	\$403.1	\$405.4	\$2.3
Administrative Projects	\$19,459.8	\$20,185.4	\$20,933.6	\$748.3
TOTAL	\$132,577.0	\$128,016.6	\$130,863.6	\$2,847.1

ANNUAL PERFORMANCE GOALS AND MEASURES**Particulate Matter Research**

Long-term Outcome Measure	Measure under development.
Annual Measure	Measure under development.
Efficiency Measure	Measure under development.

Clean Automotive Technology

In 2005 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 30% over the baseline.

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 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Fuel Economy of EPA-Developed SUV Hybrid Vehicle over EPA Driving Cycles Tested		25.2	26.3	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.

Research**PM Measurement Research**

In 2005 Deliver and transfer improved receptor models and data on chemical compounds emitted from sources so that, by 2006, EPA's Office of Air and Radiation and the states have the necessary new data and tools to predict, measure, and reduce ambient PM and PM emissions to attain the existing PM National Ambient Air Quality Standards (NAAQS) for the protection of public health.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Improved receptor models and data on chemical compounds emitted from sources			09/30/05	models/ data

Baseline: Following designation of non-attainment areas for the Particulate Matter National Ambient Air Quality Standards in 2004 and 2005, states will need to immediately begin developing State Implementation Plans (SIPs). SIPs incorporate source emission reduction rules that once implemented lead to cleaner air and standards attainment. They are due to EPA three years after designation. SIP development is predicated on the availability of recent and credible information on source emission characteristics and receptor-oriented models that can identify sources contributing to locally observed PM concentrations based on their chemical signatures. A next update (FY 2005) of these constantly improving models and the latest in source signatures will be produced to help states with their SIPs as part of a weight of evidence approach that use these and chemical transport modeling to tag specific sources with reduction targets.

Beginning in FY 2005, regular evaluations by independent and external panels will provide reviews of EPA research programs' relevance, quality, and successful performance to date, in accordance with OMB's Investment Criteria for Research and Development. These evaluations will include an examination of a program's design to determine the appropriateness of a program's short-, intermediate-, and long-term goals and its strategy for attaining these. Reviewers will also qualitatively determine whether EPA has been successful in meeting its annual and long-term commitments for research. Recommendations and results from these reviews will improve the design and management of EPA research programs and help to measure their progress under the Government Performance and Results Act (GPRA).

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Performance Measure: Fuel Economy of EPA-Developed SUV Hybrid Vehicle over EPA Driving Cycles Tested

Performance Database: Fuel economy test data for both urban and highway test cycles under the EPA Federal Test Procedure for passenger cars.

Data Source: EPA fuel economy tests performed at the National Vehicle and Fuel Emissions Laboratory (NVFEL), Ann Arbor, Michigan

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 NVFEL 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.html> One challenge relates to fuel economy testing of hybrid vehicles (i.e., more than one source of onboard power), which 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 judgment 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.

EFFICIENCY MEASURES\MEASUREMENT DEVELOPMENT PLANS

As a measure of efficiency, the Agency will track the time it takes to process particulate matter research grant proposals from RFA closure to submittal to EPA's Grants Administration Division. The Agency will also track the number of peer-reviewed particulate matter research journal articles produced per scientific/engineering FTE.

STATUTORY AUTHORITIES

Clean Air Act Amendments

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA)

Energy Policy Act of 1992

Federal Technology Transfer Act, 15 U.S.C. – Section 3701a

Global Climate Protection Act, 15 U.S.C. 2901 – Section 1103

National Climate Program Act (1997)

Nuclear Waste Policy Act of 1982

Pollution Prevention Act, 42 U.S.C. 13101 et seq. - Sections 6602, 6603, 6604, and 6605

Safe Drinking Water Act

U.S. Global Change Research Program Act of 1990

United Nations Framework Convention on Climate Change

Uranium Mill Tailings Radiation Control Act of 1978

Waste Isolation Pilot Plan (WIPP) Land Withdrawal Act

Goal 2: Clean and Safe Water

STRATEGIC GOAL: Ensure drinking water is safe. Restore and maintain oceans, watersheds, and their aquatic ecosystems to protect human health, support economic and recreational activities, and provide healthy habitat for fish, plants, and wildlife.

BACKGROUND AND CONTEXT

Over the 30 years since enactment of the Clean Water and Safe Drinking Water Acts (CWA and SDWA), government, citizens, and the private sector have worked together to make dramatic progress in improving the quality of surface waters and drinking water.

Thirty years ago, much of the nation's tap water had either very limited treatment (usually disinfection) or no treatment at all. About two-thirds of the surface waters assessed by states were not attaining basic water quality goals and were considered polluted.¹ Some of the Nation's waters were open sewers posing health risks and many water bodies were so polluted that traditional uses, such as swimming, fishing, and recreation, were impossible.

Today, drinking water systems monitor and treat water to assure compliance with drinking water standards covering a wide range of contaminants. In addition, we now protect sources of drinking water through activities such as regulating injection of wastes to ground waters. A massive investment of federal, state, and local funds resulted in a new generation of wastewater treatment facilities able to provide "secondary" treatment or better. Over 50 categories of industry now comply with nationally consistent discharge regulations. In addition, sustained efforts to implement "best management practices" have helped reduce runoff of pollutants from diffuse or "nonpoint" sources.

Cleaner, safer water has renewed recreational, ecological, and economic interests in communities across the nation. The recreation, tourism, and travel industry is one of the largest employers in the nation, and a significant portion of recreational spending comes from swimming, boating, sport fishing, and hunting.² Each year, more

than 180 million people visit the shore for recreation.³ In 2001, sportspersons spent a total of \$70 billion—\$35.6 billion on fishing, \$20.6 billion on hunting, and \$13.8 million on items used for both hunting and fishing. Wildlife watchers spent an additional \$38.4 billion on their activities around the home and on trips away from home.⁴ The commercial fishing industry, which also requires clean water and healthy wetlands, contributed \$28.6 billion to the economy in 2001.⁵ The Cuyahoga River, which once caught fire, is now busy with boats and harbor businesses that generate substantial revenue for the City of Cleveland. The Willamette River in Oregon has been restored to provide swimming, fishing, and water sports. Even Lake Erie, once infamous for its dead fish, now supports a \$600 million per year fishing industry.⁶

Much of the dramatic progress in improving the nation's water quality over the past 30 years is directly attributable to our improvements in water infrastructure. Entering the 21st century, however, the job is far from over. Despite the gains made since the passage of the CWA and the SDWA, approximately 40% of the nation's waters assessed by states still do not meet basic water quality standards.⁷ Remaining water quality problems are not easily remedied: they come not just from discharge from pipes, but from diffuse sources — farming and forestry, construction sites, urban streets, automobiles, atmospheric deposition, even suburban homes and yards. They are no longer just chemical

¹ United States Environmental Protection Agency Office of Water. 1998. *Clean Water Action Plan: Restoring and Protecting America's Water*. Washington, DC: Government Printing Office.

² Travel Industry Association of America. *Tourism for America, 11th Edition*. Washington, DC: Travel Industry of America.

³ Pew Oceans Commission. 2002. *America's Living Oceans Charting a Course for Sea Change*. Arlington, VA: Pew Oceans Commission.

⁴ U.S. Fish and Wildlife Service. 2002. *2001 National Survey of Fishing, Hunting and Wildlife-Associated Recreation*. Washington, DC: Government Printing Office.

⁵ National Marine Fisheries Service. 2002. *Fisheries of the U.S. 2001*. Washington, DC: Government Printing Office.

⁶ United States Environmental Protection Agency Office of Water. 1998. *Clean Water Action Plan: Restoring and Protecting America's Water*. Washington, DC: Government Printing Office.

⁷ 303(d) information comes from: U.S. Environmental Protection Agency. *States' Listing of Impaired Waters as Required by Clean Water Act Section 303(d)*. Washington, DC. Available online at http://oaspub.epa.gov/waters/national_rept.control.

in nature. There are biological threats to our nation's waters that we must address as well if we are to truly achieve the stated goal of the CWA to "restore and maintain the chemical, physical, and biological integrity of the nation's waters."

States have identified more than 25,000 waterways as being impaired and have listed a group of principal causes of impairment to the waterways.⁸ One of these impairments is pesticides. The U.S. Geological Survey (USGS) has synthesized contaminant and nutrient data from its 1992-1998 National Water Quality Assessment (NAWQA) program. This assessment found that detectable concentrations of pesticides are widespread in urban, agricultural and mixed-use area streams. Interestingly, streams in urban areas generally have higher concentrations of insecticides than streams in agricultural areas, however incidences are generally lower. Recent trends toward low-density development (sprawl) will increase waterways' overall exposure to pesticides because it leaves fewer pristine natural areas and fewer trees and exposes more land to pesticides.

Reductions of pesticide concentrations in streams and groundwater require management strategies that focus on reducing chemical use. This means local and regional management strategies are needed to account for geographic patterns in chemical use and natural factors. One of the primary concerns for water quality in the U.S. is the role of small, dispersed sources of non-point source pollution. The major factors that contribute to the increasing levels of pesticides found in streams and groundwater include the application pattern of pesticides, the soil condition and the amount of rainfall or irrigation, which can increase pesticide run-off into streams and rivers.

Communities are challenged to find the fiscal resources to sustain the gains of the past 30 years, while providing clean and safe water for the future. They must find ways to replace aging infrastructure, to meet growing infrastructure demands fueled by population growth, and to secure their water and wastewater infrastructure against threats. To further our progress toward clean waters and safer drinking water, we must both maintain our commitment to the core measures we have already established and look for new ways to improve water quality and protect human health.

⁸ 303(d) information comes from: U.S. Environmental Protection Agency. *States' Listing of Impaired Waters as Required by Clean Water Act Section 303(d)*. Washington, DC. Available online at http://oaspub.epa.gov/waters/national_rept.control.

MEANS AND STRATEGY

EPA will focus on four key strategies to accelerate progress toward achieving the Nation's clean and safe water goals. To better address the complexity of the remaining water quality challenges, EPA will promote local watershed approaches to achieving the best and most cost effective solutions to local and regional water problems. To protect and build on the gains of the past, EPA will focus on its core water programs. To maximize the impact of each dollar, EPA will continue to strengthen our vital partnerships with States, Tribes, local governments, and other parties that are also working toward the common goal of improving the Nation's waters. To leverage progress through innovation, EPA will promote water quality trading, water efficiency, and other market based approaches.

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. EPA is committed to helping local governments meet the challenges of water management in the 21st century in fiscally responsible and sustainable ways. We want to maintain the improvements in water quality, while enabling communities to grow and prosper.

EPA's core water programs are the fundamental underpinning for protecting and building on the gains of the past. This approach calls for setting watershed goals, assessing conditions, determining sources of concern, addressing them using regulatory and voluntary tools, and then re-evaluating and adapting plans as new information becomes available. By focusing and integrating the work of EPA with sister agencies, States, Tribes, local governments, industry, and nonprofit organizations in watersheds, we are able to pool information, resources, and authorities and focus our collective energies on our common environmental objectives. In watersheds, we can better understand the cumulative impact of 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.

Maintaining high environmental standards and sustaining a healthy economy requires that we work with States, Tribes, local governments, and other partners to optimize costs and conserve our natural resources. Innovative programs like water quality trading are based on a broad environmental perspective, looking at entire watersheds. Trading

can capitalize on economies of scale and control cost differentials among and between sources. Trading is a valuable tool to more cost-effectively implement TMDLs, and to enable communities to grow and prosper while maintaining their commitment to water quality. Trading can also be an appropriate mechanism in a pre-TMDL context.

As a result of mounting evidence that pesticide use can lead to contamination of groundwater, the Agency has developed a groundwater strategy. This strategy is designed to protect our groundwater resources from pesticide contamination. The Agency is working with the States and Tribes to implement local aspects of the strategy which includes providing assistance in the development of Pesticide Management Plans for both generic aspects of pesticide use, as well as more specific plans for a particular pesticide. The plans provide a roadmap to managing pesticides through preventive and corrective measures. In addition, EPA has an extensive scientific review process for data on new pesticides prior to granting registration, and on older pesticides under the reregistration program. One of the assessment areas for pesticides is the impact on ecosystems, including the likelihood of the chemical or product to leach into groundwater, or to persist in surface water after it leaves the field as runoff. Restrictions on use of the pesticide can be added to the registration (or reregistration), if warranted.

Research

EPA's water research program supports the Agency's Clean and Safe Water Goal by providing the scientific basis essential for protecting 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 drinking water research program will focus 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. The water quality research program will provide approaches and methods the Agency and its partners need to develop and apply

criteria to support designated uses, tools to diagnose and assess impairment in aquatic systems, and tools to restore and protect aquatic systems. Water quality research will address a wide spectrum of aquatic ecosystem stressors, with particular attention accorded to stressors that the Agency most often cites as causing water body impairment, including pathogens/indicators of fecal contamination, nutrients, and suspended and bedded sediments.

Several mechanisms are in place to ensure a high-quality water research program at EPA. 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 SAB provides its findings to the House Science Committee and sends a written report on the findings to EPA's Administrator after every annual review. 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.

STRATEGIC OBJECTIVES AND FY 2005 ANNUAL PERFORMANCE GOALS

Protect Human Health

- In 2005 93% of the population served by community water systems will receive drinking water that meets all applicable health-based drinking water standards through effective treatment and source water protection.
- In 2005 94% of the population served by community water systems will receive drinking water that meets health-based standards with which systems need to comply as of December 2001.
- In 2005 75% of the population served by community water systems will receive drinking water that meets health-based

standards with a compliance date of January 2002 or later.

- In 2005 94% of community water systems will provide drinking water that meets health-based standards with which systems need to comply as of December 2001.
- In 2005 75% of community water systems will provide drinking water that meets health-based standards with a compliance date of January 2002 or later.
- In 2005 90% of the population served by community water systems in Indian country will receive drinking water that meets all applicable health-based drinking water standards.
- In 2005 20% of source water areas for community water systems will achieve minimized risk to public health.
- In 2005 80% of the shellfish growing acres monitored by states are approved or conditionally approved for use.
- In 2005 At least 1% of the water miles/acres identified by states or tribes as having a fish consumption advisory in 2002 will have improved water and sediment quality so that increased consumption of fish and shellfish is allowed.
- In 2005 Coastal and Great Lakes beaches monitored by State beach safety programs will be open and safe for swimming in over 94% of the days of the beach season.
- In 2005 Restore water quality to allow swimming in not less than 2% of the stream miles and lake acres identified by states in 2000 as having water quality unsafe for swimming.

Protect Water Quality

- In 2005 500 of the Nation's watersheds have water quality standards met in at least 80% of the assessed water segments.
- In 2005 Water quality standards are fully attained in over 25% of miles/acres of waters by 2012, with an interim milestone of restoring 2% of these waters - identified in 2000 as not attaining standards - by 2005.

- In 2005 Improve ratings reported on the national "good/fair/poor" scale of the National Coastal Condition Report for: coastal wetlands loss by at least 0.1 point; contamination of sediments in coastal waters by at least 0.1 point; benthic quality by at least 0.1 point; & eutrophic condition by at least 0.1 point
- In 2005 Scores for overall aquatic system health of coastal waters nationally, and in each coastal region, is improved on the "good/fair/poor" scale of the National Coastal Condition Report by at least 0.1 point
- In 2005 In coordination with other federal partners reduce, by 11%, households on tribal lands lacking access to basic sanitation.
- In 2005 Water quality in Indian country will be improved at not less than 35 monitoring stations in tribal waters for which baseline data are available (i.e., show at least a 10% improvement for each of four key parameters: total nitrogen, total phosphorus, dissolved oxygen, and fecal coliforms.)

Enhance Science and Research

- In 2005 By 2005, provide methods for developing water quality criteria so that, by 2008, approaches and methods are available to States and Tribes for their use in developing and applying criteria for habitat alteration, nutrients, suspended and bedded sediments, pathogens and toxic chemicals that will support designated uses for aquatic ecosystems and increase the scientific basis for listing and delisting impaired water bodies under Section 303(d) of the Clean Water Act.

HIGHLIGHTS

Surface Water Protection

Water Quality Monitoring: EPA's fiscal year 2005 request will be the first step toward solving the well-documented shortcomings of the Nation's water quality monitoring. The most cost-efficient, practical means of making the most of scarce resources is information-based management that uses tools such as prevention, source water protection, watershed trading, and permitting on watershed basis. Monitoring is the foundation for information-based environmental management. It is imperative that we

close data and information gaps as quickly as possible: they lead to market and regulatory failures, thwart our ability to document progress, and limit our ability to effectively target limited resources. Without adequate monitoring data, the managers of water programs cannot inform the public about the condition of the Nation's waters; make wise management decisions; demonstrate the success or failure of those programs; and verify that resources are being used cost-effectively. Federal, State, and local monitoring data are essential for States to carry out their responsibilities for Clean Water Act requirements. Strengthening our monitoring program for both surface and ground water will allow for special emphasis on drinking water sources to support expeditious actions to protect or clean up these critical resources.

High quality, current monitoring data is critical for states and others to: make watershed-based decisions, target water quality criteria development, develop necessary standards and total maximum daily loads (TMDLs), and accurately and consistently portray conditions and trends. To support these efforts, the President's Budget proposes \$20 million to implement improved state monitoring efforts that will:

- Describe the condition of aquatic resources at multiple scales using scientifically defensible methods that are statistically valid and compatible;
- Apply predictive tools to target waters that need more intensive monitoring;
- Implement data management systems to facilitate exchange and use of data of documented quality;
- Determine site-specific water quality impacts, appropriate protection levels and cost-effective management actions;
- Monitor performance to determine effectiveness of management actions and support adaptive management, if needed; and
- Utilize monitoring councils/partnerships to improve collaboration among entities collection, analysis, and use of monitoring data and information.

This approach will result in social costs savings by maximizing the efficiency of monitoring and assessment resources and, more importantly, by ensuring that resources invested in environmental protection activities are directed most efficiently and are achieving performance objectives.

Concentrated Animal Feeding Operations and Storm Water: As evidenced by recent newspaper articles, withdrawal petitions, and the permit backlog,

some States are struggling with implementation of their NPDES permitting programs. In addition, the universe of facilities is increasing due to new program requirements to permit concentrated animal feeding operations (CAFOs) and additional sources of storm water. Without timely issuance of high quality permits, necessary improvements in water quality will be delayed. To help States with this workload, we are requesting an increase of \$5 million for Section 106 Grants. This increase would be used by States to support implementation of NPDES CAFO programs, which should result in pollutant reductions of over 2 billion pounds annually,⁹ and to support State issuance of storm water permits, resulting in long term annual reductions of approximately 100 billion pounds of sediment.¹⁰

Water Quality Trading: Water quality trading is a watershed approach based on voluntary partnerships at the local level. It capitalizes on economies of scale and control cost differences among sources, by allowing one source to meet its regulatory obligation by using pollutant reductions created by another source that has lower pollution control costs. Trading provides incentives for voluntary pollutant reductions, especially from sources that are not regulated. It encourages early reductions and more cost effective programs for restoring impaired waters. Trading also provides incentives for innovative solutions to complex and diverse water quality problems across the nation.

A current example of a successful trading effort between point sources can be found on Long Island Sound, where nitrogen trading among publicly owned treatment works in Connecticut is expected to save over \$200 million in control costs. A March 2003, report by the World Resources Institute, states that market mechanisms such as nutrient trading provide the greatest overall environmental benefits and a cost-effective strategy for reducing the Mississippi River Basin's contribution to the Dead Zone in the Gulf of Mexico. The report highlights

⁹ United States Environmental Protection Agency Office of Water. (January 2001). Development Document for the Proposed Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operations. (EPA-821-R-01-003). Washington, D.C. [On-line] Available: <http://epa.gov/waterscience/guide/>

¹⁰ U.S. EPA, Office of Water. "Economic Analysis of the Final Phase II Storm Water Rule," EPA 833-R-99-002, October 1999.

U.S. EPA, Office of Water. "Construction and Development Effluent Guideline Proposed Rule," *Federal Register* Notice (June 24, 2002). Accessed December 29, 2003. Available on the internet at: <http://www.epa.gov/waterscience/guide/construction/rule.html>

the fact that trading provides a real opportunity for farmers to play a role in reducing nutrient pollution.¹¹

In FY 2005, we plan to redirect \$4 million for this effort, to be set-aside within the Targeted Watershed Grants.

Water Efficiency: At the end of 2002, nearly half the continental U.S. was in drought.¹² In addition to reduced rainfall, most of our water systems also face a growing population and a growing economy. In the future, our waters are going to be even more stretched across competing demands. The Agency is committed to helping States and local governments address a multi-billion dollar gap between water and wastewater infrastructure needs and available capital financing over the next 20 years.

One way to reduce national water and wastewater infrastructure needs is by reducing water demand and wastewater flows, allowing for deferral or downsizing of capital projects. In addition to reduced infrastructure needs, less water demand may result in many environmental benefits including maintaining stream flows, protecting aquatic habitats, avoiding overdrawn aquifers, conserving sources of supply, and mitigating drought effects. In anticipation of these benefits, we are proposing to develop and implement a water efficiency market enhancement program that would promote recognition of water-efficient products based on the highly successful Energy Star Program. The Budget includes nearly \$1 million for this new program.

Surface Water Protection & Drinking Water Programs

Sustainable Infrastructure: Closing the infrastructure gap requires actions and innovations to reduce the demand for infrastructure, including better management, conservation (or smart water use), and intergovernmental cooperation through the watershed approach.

The touchstone of a long-term strategy to manage and maintain the Nation's infrastructure is fiscal sustainability. An important component of this strategy is promoting sustainable water and wastewater treatment systems. This includes ensuring the technical, financial, and managerial capacity of water and wastewater systems; helping

service providers avoid future gaps and expanding watershed approaches that engage stakeholders in broad-based action-oriented partnerships to identify efficient and effective local infrastructure solutions by adopting sustainable management systems to improve efficiency and economies of scale; and reducing the average cost of service. Through a \$2.5 million sustainable infrastructure initiative, we will work in partnership with States, the utility industry, and other stakeholders to enhance the operating efficiencies of water and wastewater systems. These efficiencies can help systems make the infrastructure investments needed to meet growing consumer demand, and help to sustain the human health and environmental gains we have achieved over the past three decades.

In FY 2005, the Agency will continue to coordinate with States and Tribes providing guidance and assistance in the development of generic and specific Pesticide Management Plans in order to protect our ground water resources. EPA will coordinate pesticide water issues and assist our partners in identifying and implementing effective ground water protection programs through these plans. The Agency will continue to support efforts on identifying the adverse effects of pesticides in ground and surface water at the State, Tribal and Regional levels. Additionally, we will continue to assist States and Tribes in identifying, developing and implementing measures to prevent or reduce water contamination. Key to this effort will be tailoring preventive and recovery measures to localities and specific pesticides.

Research

In FY 2005, 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 to control risks posed by drinking water contamination. 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. 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.

EPA is working to develop biological and landscape indicators of ecosystem condition, sources

¹¹ Greenhalgh, Suzie and Amanda Sauer. 2003. "Awakening the 'Dead Zone': An Investment for Agriculture, Water Quality, and Climate Change." World Resources Institute.

¹² The Drought Monitor; National Drought Mitigation Center; Website: www.drought.unl.edu/dm/about.html

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 and soil conditioners 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 may pose 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), which 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

EPA's strategies for achieving clean and safe water depend on substantial contributions and investments by many public and private entities.

States are primary partners in implementation of both clean water and safe drinking water programs. Many states, however, are facing budget problems and even deficits. EPA recognizes that state budget shortfalls are an external factor that may limit progress toward clean and safe water goals.

Consistent with the federal government's unique trust responsibility to federally recognized tribes, EPA implements programs in Indian country, helps build tribal capacity to administer clean and safe water programs, and works with authorized tribes as co-regulators. Unlike states, many tribes are

still developing programs to administer clean and safe water programs.

Local governments play a critical role in implementing clean and safe water programs, and the continued participation of local government in these programs is critical to cleaner, safer water. Municipalities and other local entities have proven to be strong partners with states and the federal government in the financing of wastewater treatment and drinking water systems, and continued partnership in financing these systems is essential to meeting water goals. Municipalities are taking on additional responsibilities for addressing storm water and combined sewer overflows and they are adopting sustainable management practices to extend the useful lives of their wastewater infrastructure. Approximately 78 percent of wastewater treatment plants are operated by small communities, thousands of which have had past operational difficulties.¹³ Continued assistance to these small treatment plants, through the Wastewater Operator Training Program, is important to keeping the nation's waters clean. In the case of the drinking water program, effective local management of drinking water systems, including protection of source waters, is essential to maintaining high rates of compliance with drinking water standards. Ninety-five percent of the 160,000 or more public water systems responsible for meeting drinking water safety standards are small systems that face challenges in sustaining their capacity to provide safe drinking water.¹⁴ Strong partnerships with local governments are critical to achieving clean and safe water goals.

Several key components of the national water program, including nonpoint source control, source water protection, and watershed management, as well as the core water quality and drinking water standards, monitoring, TMDLs and NPDES permitting programs require broad partnerships among many federal, state, and local agencies. Over the next several years, building partnerships, particularly with the agricultural community (such as USDA, state agricultural agencies, and local conservation districts) is a top priority for meeting clean water goals. We must continue to provide EPA water quality data and work with USDA to help target runoff control programs' resources.

¹³ U.S. Environmental Protection Agency, Office of Enforcement and Compliance Assistance; Permit Compliance System; Web-site: www.epa.gov/oeca/planning/data/water/pcssys.html

¹⁴ U.S. Environmental Protection Agency Safe Drinking Water Information System (SDWIS/FED), <http://www.epa.gov/safewater/data/getdata.html>

States lead the effort in water quality monitoring. However, EPA relies on many other agencies to provide monitoring data to measure progress toward its goal of clean and safe water, such as the U.S Geological Survey, which maintains water monitoring stations throughout the nation, and NOAA, which provides information on coastal waters. EPA relies on the continued collection of data by these agencies.

Additionally, all of the EPA's coastal and oceans activities are carried out in partnership with other federal agencies, and, in some cases, international, state, local and private entities as well. EPA relies on its work with the Department of Defense, Coast Guard, Alaska and other states, and a number of cruise ship and environmental and non-governmental organizations regarding regulatory and non-regulatory approaches to managing wastewater discharges from vessels. Meeting ocean and coastal goals will also depend on the extent to which the growth in coastal areas is directed in ways that minimize effects on water quality.

West Nile Virus cases increased dramatically in 2002, spreading across 38 states and the District of Columbia. In areas with new West Nile virus detections, EPA regional offices have reported heightened concern about the pesticides used for mosquito control and the adverse affect it might have in contaminating groundwater. Pesticides are applied to areas where groundwater is prevalent due to the fact that mosquitoes need stagnant or standing water to lay their eggs. The possibility of the West Nile Virus expanding into new areas of the United States in the future will require the application of more pesticides onto the new breeding areas.

Resource Summary
(Dollars in thousands)

	FY 2003	FY 2004	FY 2005	FY 2005 Req. v.
	Actuals	Pres. Bud.	Pres. Bud.	FY 2004 Pres Bud
Clean and Safe Water	\$3,725,201.9	\$2,959,731.8	\$2,936,968.6	(\$22,763.3)
Protect Human Health	\$1,259,787.6	\$1,192,187.1	\$1,170,339.6	(\$21,847.5)
Protect Water Quality	\$2,346,144.8	\$1,647,043.1	\$1,645,669.9	(\$1,373.3)
Enhance Science and Research	\$119,269.5	\$120,501.6	\$120,959.1	\$457.5
Total Workyears	2,941.4	3,053.6	3,041.4	-12.3

OBJECTIVE: Protect Human Health

Protect human health by reducing exposure to contaminants in drinking water (including protecting source waters), in fish and shellfish, and in recreational waters.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Protect Human Health	\$1,259,787.6	\$1,192,187.1	\$1,170,339.6	(\$21,847.5)
Environmental Program & Management	\$159,996.8	\$161,414.6	\$164,157..1	\$2,742.5
Science & Technology	\$18,362.0	\$27,926.9	\$6,709.8	(\$21,217.1)
Building & Facilities	\$1,361.4	\$1,480.2	\$1,595.3	\$115.1
State and Tribal Assistance Grants	\$1,085,448.9	\$1,008,640.4	\$1,004,412.2	(\$4,228.2)
Inspector General	\$6,871.9	\$7,701.4	\$7,594.4	(\$107.0)
Total Workyears	859.7	916.8	910.9	-5.8

Program Project
(Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Children and other Sensitive Populations	\$246.6	\$135.0	\$77.2	(\$57.8)
Categorical Grant: Public Water System Supervision (PWSS)	\$92,694.2	\$105,100.0	\$105,100.0	\$0.0
Categorical Grant: Underground Injection Control (UIC)	\$10,465.7	\$11,000.0	\$11,000.0	\$0.0
Categorical Grant: Pesticides Program Implementation	\$4,672.6	\$4,564.0	\$4,433.0	(\$131.0)
Categorical Grant: Beaches Protection	\$7,473.3	\$10,000.0	\$10,000.0	\$0.0
Beach / Fish Programs	\$3,197.3	\$3,689.5	\$3,237.6	(\$451.9)
Drinking Water Programs	\$86,119.7	\$99,085.5	\$100,947.6	\$1,862.1
Infrastructure Assistance: Drinking Water SRF	\$866,607.7	\$850,000.0	\$850,000.0	\$0.0
Infrastructure Assistance: Puerto Rico	\$0.0	\$8,000.0	\$4,000.0	(\$4,000.0)
Pesticides: Field Programs	\$2,001.2	\$2,510.8	\$2,482.7	(\$28.1)
Categorical Grant: Water Quality Cooperative Agreements	\$0.0	\$0.0	\$750.0	\$750.0
Congressionally Mandated Projects	\$111,719.6	\$0.0	\$0.0	\$0.0
International Capacity Building	\$3,419.4	\$1,611.2	\$2,181.0	\$569.8
Categorical Grant: Homeland Security	\$4,508.5	\$5,000.0	\$5,000.0	\$0.0
Homeland Security: Critical Infrastructure Protection	\$14,186.4	\$27,389.1	\$6,125.8	(\$21,263.3)
Administrative Projects	\$52,475.4	\$64,102.0	\$65,004.7	\$902.7
TOTAL	\$1,259,787.6	\$1,192,187.1	\$1,170,339.6	(\$21,847.5)

ANNUAL PERFORMANCE GOALS AND PERFORMANCE MEASURES**GOAL: CLEAN AND SAFE WATER****OBJECTIVE: PROTECT HUMAN HEALTH****Annual Performance Goals and Measures****Safe Drinking Water**

- | | |
|---------|--|
| In 2005 | 93% of the population served by community water systems will receive drinking water that meets all applicable health-based drinking water standards through effective treatment and source water protection. |
| In 2005 | 94% of the population served by community water systems will receive drinking water that meets health-based standards with which systems need to comply as of December 2001. |
| In 2005 | 75% of the population served by community water systems will receive drinking water that meets health-based standards with a compliance date of January 2002 or later. |
| In 2005 | 94% of community water systems will provide drinking water that meets health-based standards with which systems need to comply as of December 2001. |
| In 2005 | 75% of community water systems will provide drinking water that meets health-based standards with a compliance date of January 2002 or later. |
| In 2005 | 90% of the population served by community water systems in Indian country will receive drinking water that meets all applicable health-based drinking water standards. |
| 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 | End of year FY 2003 data will be available in 2004 to verify 85 percent of the population served by community water systems received drinking water meeting health-based standards promulgated in or after 1998. |
| In 2003 | End of year FY 2003 data will be available in 2004 to verify 92% 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. |

Performance Measures:

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
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		% Population
Population served by community water systems providing drinking water meeting health-based standards promulgated in or after 1998.	96	85		% Population
Population served by community water systems that receive drinking water that meets health-based standards with which systems need to comply as of December 2001			94	% Population
Population served by community water systems that receive drinking water that meets health-based standards with a compliance date of January 2002 or later			75	% Population
Percentage of community water systems that provide drinking water that meets health-based standards with which systems need to comply as of December 2001			94	% CWSs
Percentage of community water systems that provide drinking water that meets health-based standards with a compliance date of January 2002 or later			75	% CWSs
Percent of the population served by community water systems in Indian country that receive drinking water that meets all applicable health-based drinking water standards			90	% Population
% of population served by community water systems that receive drinking water that meets all applicable health-based drinking water standards through effective treatment and source water protection			93	% 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. Year-to-year performance is expected to change as new standards take effect. Covered standards include: Stage 1 disinfection by-products/interim enhanced surface water treatment rule/long-term enhanced surface water treatment rule/arsenic.

Source Water Protection

In 2005	20% of source water areas for community water systems will achieve minimized risk to public health.
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	End of year FY 2003 data will be available in 2004 to verify 39,000 community water systems (75% of the nation's service population) will have completed source water assessments and 2,600 of these (10% of the nation's service population) will be implementing source water protection programs.

Performance Measures:

Number of community water systems and percent of population served by those CWSs that are implementing source water protection programs.

**FY 2003
Actuals**
Data Lag

**FY 2004
Pres. Bud.**
25% / 7,500

**FY 2005
Pres. Bud.**

% pop/systems

Percent of source water areas for community water systems that achieve minimized risk to public health

20

% Areas

Baseline: EPA defines "achieve minimized risk" as substantial implementation of source water protection actions, as determined by a State's source water protection strategy. Approximately 268 million people are estimated to be served by Community Water Systems (CWSs) in 2002.

River/Lake Assessments for Fish Consumption

In 2005 80% of the shellfish growing acres monitored by states are approved or conditionally approved for use.

In 2005 At least 1% of the water miles/acres identified by states or tribes as having a fish consumption advisory in 2002 will have improved water and sediment quality so that increased consumption of fish and shellfish is allowed.

In 2004 Reduce consumption of contaminated fish by increasing the information available to States, Tribes, local governments, citizens, and decision-makers.

In 2003 Reduced consumption of contaminated fish by increasing the information available to States, Tribes, local governments, citizens, and decision-makers.

Performance Measures:

Lake acres assessed for the need for fish advisories and compilation of state-issued fish consumption advisory methodologies. (cumulative)

**FY 2003
Actuals**
33

**FY 2004
Pres. Bud.**
35

**FY 2005
Pres. Bud.**

% Lake acres

River miles assessed for the need for fish consumption advisories & compilation of state-issued fish consumption advisory methodologies. (cumulative)

15

16%

% River miles

Percent of water miles/acres, identified by states or tribes as having fish consumption advisories in 2002, where increased consumption of fish is allowed.

1

% Miles/Acres

Percent of the shellfish growing acres monitored by states that are approved or conditionally approved for use

80

% Areas

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 estuarine 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 2005 Coastal and Great Lakes beaches monitored by State beach safety programs will be open and safe for swimming in over 94% of the days of the beach season.
- In 2005 Restore water quality to allow swimming in not less than 2% of the stream miles and lake acres identified by states in 2000 as having water quality unsafe for swimming.
- In 2004 Reduce human exposure to contaminated recreation waters by increasing the information available to the public and decision-makers.
- In 2003 Reduced human exposure to contaminated recreation waters by increasing the information available to the public and decision-makers.

Performance Measures:

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Beaches for which monitoring and closure data is available to the public at http://www.epa.gov/waterscience/beaches/ . (cumulative)	2,823	2,823		Beaches
Restore water quality to allow swimming in stream miles and lake acres identified by states			2	% Miles/Acres
Days (of beach season) that coastal and Great Lakes beaches monitored by State beach safety programs are open and safe for swimming.			94	% Days/Season

Baseline: By the end of FY 1999, 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. An average of 9 recreational contact waterborne disease outbreaks reported per year by the Centers for Disease Control for the years 1994-1998, based on data housed in EPA/ORD internal database. In 2002, monitored beaches were opened 94% of the days during the beach season.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Performance Measures: The percentage of the population served by community water systems that receive drinking water that meets health-based standards with which systems need to comply as of December 2001.

The percentage of the population served by community water systems that receive drinking water that meets health-based standards with a compliance date of January 2002 or later. (Covered standards include: Stage I disinfection by-products/interim enhanced surface water treatment rule/long-term enhanced surface water treatment rule/arsenic.)

The percentage of community water systems that provide drinking water that meets health-based standards with which systems need to comply as of December 2001.

The percentage of community water systems that provide drinking water that meets health-based standards with a compliance date of January 2002 or later.

The percentage of population served by community water systems in Indian country that receive drinking water that meets all applicable health-based drinking water standards.

Performance Database: Safe Drinking Water Information System- Federal Version (SDWIS or SDWIS-FED). SDWIS contains basic inventory information, including an individual public water system's activity status, type of water system (i.e., community, non-community, and non-transient non-community), and the population served by that system. SDWIS also contains violations records that detail violations of the Safe Drinking Water Act and the statute's implementing regulations. The performance measure is based on the population served by community water systems that were active during any part of the performance year and did not have any violations designated as "health based." Exceedances of a maximum contaminant level and violations of a treatment technique are health-based violations; monitoring and reporting, record keeping, and public notification violations are not "health based."

Data Source: Agencies with primacy (primary enforcement authority) for the Public Water Supply Supervision (PWSS) program including states and EPA Regional Offices with direct implementation (DI) responsibility for states and Indian tribes. The Navajo Nation Indian tribe, the only tribe with primacy, is expected to begin reporting directly to EPA in FY 2004. Primacy agencies collect the data from the regulated water systems, determine compliance, and report a subset of the data to EPA (primarily inventory and violations).

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 agencies to analyze drinking water samples and are subject to periodic performance audits by the states and EPA as the direct implementers. Performance measures are based on data reported by individual systems to states, which, in turn, supply the information to EPA through SDWIS. EPA then verifies and validates the data for 10 to 12 states per year, according to a protocol, which is updated annually. 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 community water systems.

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 (on-line data dictionary - electronic documentation), entity relationship diagrams, a user's manual, and regulation-specific reporting requirements documents. System, user, and reporting requirements documents can be found on the EPA web site, <http://www.epa.gov/safewater/>. System and user documents are accessed via the database link <http://www.epa.gov/safewater/databases.html>, and specific rule reporting requirements documents are accessed via the regulations, guidance, and policy documents link <http://www.epa.gov/safewater/regs.html>. 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 management and required reporting to EPA. Primacy agencies' information systems are audited on an average schedule of once every 3 years.

SDWIS-FED does not have a quality assurance project plan - it is a legacy system which has “evolved” since the early 1980s prior to the requirement for a plan. The SDWIS-FED equivalent is the data reliability action plan¹⁵ (DRAP). The DRAP contains the processes and procedures and major activities to be employed and undertaken for assuring the data in SDWIS meet required data quality standards. There are three major components of this plan: assurance, assessment, and control. The assurance component includes management of the plan, development and/or maintenance of tools used to support the implementation processes and procedures, and standard operating procedures. It also includes provision of training, technical assistance vehicles, coordination with other program areas that use the data or impact its quality. The second major component of the plan is assessment. Quality assurance assessments include all types of review, audit, and assessment of the DRAP, data, and information needs. The third major component of the plan is control. Quality assurance controls include software edit checks, processing controls, security controls, and other procedural controls that limit or prevent incomplete, inaccurate, or unauthorized updates or modifications to the data. The data verification protocol, and its use in on-site audits of states’ files, is the final measure of data quality control. Thirty-one state data verification audits were conducted over the period from 1999 to 2001.

Data Quality Review: SDWIS data quality was identified as an Agency weakness in 1999 and has a corrective action completion target date in 2005. SDWIS’ weaknesses center around five major issues: 1) completeness of the data (e.g., the inventory of public water systems, violations of maximum contaminant levels, enforcement actions) submitted by the states, 2) timeliness of the data sent by the states, i.e., if states do not report at specified times, then enforcement and oversight actions suffer, 3) difficulty receiving data from the states, 4) both cost and difficulty processing and storing data in SDWIS after it has been received, and 5) difficulty getting SDWIS data for reporting and analysis. The DRAP focuses on the first three issues, and an information strategic plan¹⁶ (ISP) has been developed and is being implemented to address the last two issues, which deal primarily with technology (hardware and software) concerns. For instance, the ISP is examining ways 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 secure central data exchange (CDX) environment. Detailed activities and implementation schedules are included in these two documents, and to date the Agency expects to correct these weaknesses by the end of 2005.

Routine data quality assurance and quality control (QA/QC) analyses of the Safe Drinking Water Information System (SDWIS) by the Office Water (OW) have revealed a degree of nonreporting of violations of health-based drinking water standards, and of violations of regulatory monitoring and reporting requirements. As a result of these data quality problems, the baseline statistic of national compliance with health-based drinking water standards likely is lower than previously reported. The Agency is currently engaged in a rigorous statistical analysis and in discussions with states to more accurately quantify the impact of these data quality problems on the estimate of national compliance with health-based drinking water standards. This analysis could result in statistically based adjustments to the baseline that will lower the 5-year (2008) performance targets for our SDWIS-based subobjective and strategic measures. Ongoing EPA and state efforts to improve data quality in SDWIS already have resulted in significant improvements in data accuracy and completeness, however. Even as these improvements are made, SDWIS serves as the best source of national information on compliance with Safe Drinking Water Act requirements, and is a critical database for program management, the development of drinking water regulations, trends analyses, and public information.

Management System Reviews (MSRs) of quality assurance/quality control (QA/QC) systems for SDWIS are carried out by the Quality Assurance Division of the Office of Environmental Information. An MSR of SDWIS data quality was completed in 1999 and the final report contained favorable comments on the level of detail in EPA’s plans and actions to improve data quality. EPA also completed a data reliability assessment (QA audit) of the 1996–1998 SDWIS-FED data in FY 2000, which, in turn, led to the development and issuance of the 2002 DRAP. A second data reliability assessment is expected to be released in January 2004 and is based on 1998–2001 data in SDWIS/FED. Also, the 2002 DRAP will be revised and expanded in 2004 to include the findings of the second data reliability assessment.

¹⁵ *Data Reliability Action Plan*. U.S. EPA, October 2002. Office of Ground Water and Drinking Water internal work plan document.

¹⁶ U.S. EPA, Office of Water, *Office of Ground Water and Drinking Water Information Strategy* (under revision). See *Options for OGWDW Information Strategy (Working Draft)*, EPA 816-P-01-001. Washington, DC, February 2001. Available on the Internet at <http://www.epa.gov/safewater/data/informationstrategy.html>

- The basic findings from the second data reliability assessment were that the data in SDWIS are accurate but incomplete. Improvements were observed in all areas except timeliness of violations reporting. Core inventory data are highly complete and accurate. The quality of violations data is improving, with high accuracy but still low in completeness. Monitoring and reporting violations continue to be the major problem area. Health-based violation data quality is highly accurate with higher levels of completeness than monitoring violations data.

Finally, EPA and its contracted auditors of primacy agencies' information systems conduct individual data quality reviews. The frequency of these audits is every 2 to 4 years depending on the resources available and programmatic need in the region. 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 "exceptions" 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. These violations are reported through SDWIS.

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. As described in the Data Quality Review section above, currently the program office is assessing the percentage of unreported health-based violations and calculating possible adjustments to the performance data that might be required for future reports. The SDWIS inventory of public water systems is highly complete and the quality of population data has been determined to be of high quality.

In addition to the DRAP and the information strategy, other options under consideration to improve data in SDWIS include:

1. Increase the focus on state compliance determinations and reporting of complete, accurate and timely violations data. This is the single most significant factor for data quality improvement.
2. Develop incentives to improve the accuracy, completeness, and timeliness of state reporting.
3. Enhance and ease the flow of data from providers to EPA via a secure environment (Central Data Exchange - CDX), utilizing modern technologies (e.g., extensible markup language - XML) and standardized procedures and processes.
4. Continue to analyze the quality of the data.
5. Obtain parametric data (analytical results used to evaluate compliance with monitoring regulations and compliance with treatment techniques and maximum contaminant levels) from states through an agreement on voluntarily reporting these data to EPA, monitoring schedules, and waiver information assigned to water systems by the state primacy agency. This information would allow EPA to have more direct access to the data used for compliance determinations for quality assurance and 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 early 2004. 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: Several approaches are underway.

First, EPA will continue to work with states to implement the DRAP and ISP, which have already 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,¹⁷ 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 SDWIS-FED and uses many of the same edit criteria and enforces many of the mandatory data elements. If the SDWIS-STATE system is fully utilized by a state, the information it holds would meet EPA's minimum data requirements. SDWIS-STATE links directly 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 the end of 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, (3) enforce compliance with permitted values and Agency data standards through software edits, and (4) ease the flow of data to EPA through a secure data exchange environment incorporating modern technologies, 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 (parametric) data, source water quality data (e.g., U.S. Geological Survey [USGS] data), and indicators from inspections conducted at the water systems. It will improve the program's ability to more efficiently use information to support decision-making 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 (UIC), 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. In 2003, agreement was reached on the data elements for reporting source water and UIC data. In 2004, plans will be developed for design of systems to address these data flows. Developing the systems to receive the data is scheduled for 2005.

References:Plans*

- SDWIS-FED does not have a Quality Assurance Project Plan - it is a legacy system which 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 (see footnote 2)
- Office of Water Quality Management Plan, available at <http://www.epa.gov/water/info.html>
- Enterprise Architecture Plan

¹⁷ 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.

U.S. EPA, Office of Ground Water and Drinking Water. Data and Databases. Drinking Water Data & Databases – SDWIS/STATE, July 2002. Information available on the Internet: <http://www.epa.gov/safewater/sdwis_st/current.html>

Reports*

- 1999 SDWIS/FED Data Reliability
- 2003 SDWIS/FED Data Reliability Report - contains the Data Reliability Action Plan and status report
- PWSS Management Report (quarterly)
- 1999 Management Plan Review Report
- 2003 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.) Available on the Internet at <http://www.epa.gov/safewater/sdwisfed/sdwis.htm>
- Regulation-Specific Reporting Requirements Guidance. Available on the Internet at <http://www.epa.gov/safewater/regs.html>

Web site addresses

- OGWDW Internet Site <http://www.epa.gov/safewater/databases.html> and contains access to the information systems and various guidance, manuals, tools, and reports.
- Sites of particular interest are:
<http://www.epa.gov/safewater/data/getdata.html> contains information for users to better analyze the data, and
<http://www.epa.gov/safewater/sdwisfed/sdwis.htm> contains reporting guidance, system and user documentation and reporting tools for the SDWIS-FED system.

FY 2005 Performance Measure: Percentage of source water areas for community water systems that achieve minimized risk to public health.

Performance Database: The source water assessment and protection programs are authorized under Sections 1453, 1428, and relevant subsections of 1452 of the Safe Drinking Water Act (SDWA).¹⁸ EPA issued guidance to implement these programs in 1997, *State Source Water Assessment and Protection Programs Guidance*.¹⁹ EPA will issue supplemental reporting guidance - - *Source Water Assessment and Protection Measures: Initial Guidance* - - in 2004. Starting in FY 2003, and updated annually thereafter, states will report to EPA on the results of their source water assessment programs' (SWAPs) progress in implementing source water protection (SWP) strategies, and whether such strategy implementation is affecting public health protection. To assess *progress in completing the SWAPs*, state reporting will include five elements: (1) the delineated source water areas around each well and intake, (2) whether the assessments are complete, (3) and (4) most prevalent and most threatening sources of contamination, and (5) relative susceptibility ratings across source water areas, i.e., high, medium, or low susceptibility. To assess *progress in implementing the SWP strategies*, state reporting will include three elements: (1) whether a prevention strategy covering source water areas has been adopted, (2) whether that strategy is being implemented, and (3) whether such strategy implementation has reached a substantial level. To assess *whether the program is affecting public health protection*, states will report change in the number of source water areas with substantially

* These are internal documents maintained by EPA's Office of Ground Water and Drinking Water. Please call 202-564-3751 for further information.

¹⁸ *Safe Drinking Water Act Amendments of 1996*. P.L. 104-182. (Washington: 6 August 1996). Available on the Internet at <http://www.epa.gov/safewater/sdwa/sdwa.html>

¹⁹ U.S. EPA, Office of Water. *State Source Water Assessment and Protection Programs Guidance*. EPA 816-R-97-009 (Washington: US EPA, August 1997). Available on the Internet at <http://www.epa.gov/safewater/swp/swappg.html>

implemented source water protection strategies. The Agency will develop a national summary of data on the progress of states' source water protection programs using these data elements.

In FY 2003, EPA maintained state-level summary data for each of these elements in an Excel database. Beginning in FY 2004, states may, at their option, make available to EPA public water system-level data for each of these elements to be maintained in a set of data tables in the drinking water warehouse (for tabular data) and in event tables in the Office of Water's Reach Address Database (RAD)²⁰ (GIS data). These data will be compatible with the inventory data States are currently reporting to the Safe Drinking Water Information System (SDWIS).²¹ [Not publicly available. Contact the Drinking Water Protection Division at 202-564-3797.]

Data Source: See section "New/Improved Data or Systems."

Methods, Assumptions and Suitability: For this measure, the states' reporting of progress in implementing their source water assessment and protection programs will be based on EPA's 2004 guidance, *Source Water Assessment and Protection Measures: Initial Guidance*. States will only report state-level summary information that may be: (1) directly related to specific community water systems in a database; (2) directly related to the community water systems sampled in a statewide statistical sample; or (3) estimated using best professional judgment. Because state reporting will be based on consistent definitions and procedures found in the *Source Water Assessment and Protection Measures: Initial Guidance*, EPA assumes that these data are reliable for use in making management decisions.

QA/QC Procedures: QA/QC procedures will be included in the 2004 *Source Water Assessment and Protection Measures: Initial Guidance*. Additionally, a series of data checks will be built into the Excel-based data collection procedures given to each Region for their work with states. States will be required to identify whether their reported summary-level data are based on a system-level database or on aggregate-level estimates. EPA's Regions also will work with individual states to obtain a description of their methods of collecting and verifying information.

Data Quality Reviews: EPA Regions will conduct data quality reviews of state data using the QA/QC procedures included with the Excel-based data system, and work with states to resolve data exceptions. As a result, EPA expects the quality of data on assessments and source water protection activities to improve over time.

Data Limitations: Because the initial reporting provides only state-level summary information, there is no standard protocol for EPA to verify and validate the data to system-level information contained in state databases. In addition, much of the data reported by states is voluntary and based on working agreements with EPA because SDWA only requires states to complete source water assessments. The only source water information that states are required to report to EPA under SDWA is whether the assessments are completed. Although EPA's 2004 *Source Water Assessment and Protection Measures: Initial Guidance* will set standard data definitions and procedures, it also provides for considerable flexibility in states' data collection protocols and analytical methods to evaluate their 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. Because much of the data reporting is voluntary and the individual state protocols may vary, state data may be incomplete and inconsistent across states.

Error Estimate: There is no basis for making an error estimate for this performance measure given the data limitations of state-level summary reporting described above.

New/Improved Data or Systems: EPA is developing a new source water data module to collect, store, and use public water system-level data received from states. The source water module is being developed as a joint initiative between EPA, the Association of State Drinking Water Administrators (ASDWA), and the Ground Water Protection Council (GWPC). It will give EPA the ability to access the data directly from states through a data exchange agreement using an electronic data transfer capability. A state may choose, at its option, to provide EPA more detailed data in lieu of state-level summary reporting. The new source water data module will be integrated into the

²⁰ Watershed Assessment, Tracking & Environmental Results (WATERS). Available only on the Internet at <http://www.epa.gov/waters/>

²¹ Safe Drinking Water Information System (SDWIS). Information available on the Internet at <http://www.epa.gov/safewater/databases.html>

drinking water data warehouse and be compatible with Safe Drinking Water Information System (SDWIS) data already reported by states. Geospatial data (i.e., the intake and well point locations and the source water area polygons) will be maintained in EPA's Office of Water's Reach Access Database (RAD). The source water assessment and protection indicator data and other attribute data will be maintained in data tables in the drinking water warehouse. The source water data module should be operational in FY 2004. A number of states are expected to report this detailed data in 2004 as part of the EPA/ASDWA/GWPC initiative.

References:

Guidance Manuals

- U.S. EPA, Office of Water. *State Source Water Assessment and Protection Programs Guidance*. EPA 816-R-97-009 (Washington: US EPA, August 1997). Available on the Internet at <http://www.epa.gov/safewater/swp/swappg.html>
- *Source Water Assessment and Protection Measures: Initial Guidance* (to be released late summer 2003)

Web site addresses

- US EPA Office of Ground Water and Drinking Water. <http://www.epa.gov/safewater>
- For more detailed information on Source Water topics, US EPA Office of Ground Water and Drinking Water, Source Water site. <http://www.epa.gov/safewater/protect.html>
- US EPA Office of Water (OW) Reach Access Database (RAD). Watershed Assessment, Tracking & Environmental Results (WATERS). <http://www.epa.gov/waters/>
- Safe Drinking Water Information System (SDWIS). <http://www.epa.gov/safewater/databases.html>

FY 2005 Performance Measure: Percent of the population and the number of community water systems - - serving more than 3,300 but less than 50,000 people - - that have certified the completion of the development or revision of their emergency response plan.

Performance Database: No formal EPA database. Performance is tracked against a master list of small systems (each of which serves between 3,301 and 49,999 people) that has been compiled specifically for this performance measure.

Data Source: The Safe Drinking Water Information System (SDWIS) is the source of drinking water system descriptive information, including system size. The master list of small drinking water systems was compiled by determining which systems, based on size, are required to develop/revise emergency response plans and submit a certification of completion of this activity to EPA in accordance with the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Bioterrorism Act).

Methods, Assumptions and Suitability: The method for determining the number of small community water systems subject to the requirements of the Bioterrorism Act was to compile the number of community water systems listed in SDWIS in July 2002. This listing was sent to Regional drinking water program staff who, in turn, worked with each state in that Region to review and categorize these systems by size as defined in the Bioterrorism Act. However, because the number of community water systems changes often - - due to acquisitions, mergers, closures, etc. - - all major stakeholders in this effort, i.e., EPA, state, drinking water systems, states-related organizations, and environmental groups agreed that these numbers should be considered estimates and that EPA should count the number of certifications of completion of emergency response plans submitted to the Agency. Each state serves as the final arbiter of issues related to system size. As each system submits this document, its name is checked. Any system on the list that has not submitted its certification of emergency response plan completion by the statutory deadline set forth in the Bioterrorism Act is contacted and a determination is made at that time if the system is still in operation and when it will submit the required material.

QA/QC Procedures: Other than what is described above, there is no QA/QC procedure for this activity and performance measure.

Data Quality Review: EPA works with the states on a regular basis to identify the drinking water systems in that state and to assure that these systems are reporting data to SDWIS.

Data Limitations: N/A

Error Estimate: N/A

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.

References: N/A

FY 2005 Performance Measure: The quality of water and sediments will be improved to allow increased consumption of fish in not less than 3% of the water miles/acres identified by states or tribes as having a fish consumption advisory in 2002.

Performance Database: National Listing of Fish and Wildlife Advisories.¹ The database includes fields identifying the waters for which fish consumption advisories have been issued. The fields also identify the date upon which the advisory was issued, thus allowing an assessment of trends. The National Hydrographic Data (NHD) are used to calculate the spatial extent of the fish advisory. This information is updated continually as states and tribes issue or revise advisories. The National Listing of Fish and Wildlife Advisories database includes records showing that 485,205 river miles and 11,277,276 lake acres were identified by states or tribes in calendar year 2002 (calendar year 2003 data will be available in May 2004) as having fish with chemical contamination levels resulting in an advisory of potential human health risk from consumption. States and tribes report data on a calendar year basis. The calendar year data are then used to support the fiscal year commitments (e.g. calendar year 2002 data support the FY 2003 commitments). Metadata are also available describing methodologies used by states and tribes for establishing advisories.

Data Source: State and Tribal Governments. These entities collect the information and enter it directly into the National Listing of Fish and Wildlife Advisories database. EPA reviews advisory entries, including the states' or tribes' responses to an on-line survey, which support the advisory decision. The Agency follows-up with the state or local government to obtain additional information where it is incomplete.

Methods, Assumptions and Suitability: The database comprises advisories that reporting states and tribes have in effect each year. The advisories are specific to a waterbody, and thus are not aggregated. 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. The database reflects the actual number of advisories that states and tribes issued, and are thus specific to the performance measure.

QA/QC Procedures: A standard survey, which has been approved by OMB, 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^{2,3} 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 of the information that states and tribes use to decide whether to issue an advisory. The Office of Water's "Quality Management Plan," approved in September 2001 and published in July 2002⁴, is the guidance that applies to this information collection.

Data Quality Reviews: 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 that state and local governments provide. There have been no external party reviews of this information.

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. Two states, Puerto Rico, the Virgin Islands, and Guam do not report in the survey. In addition, states have not assessed all waters for the need for advisories, so the information reported reflects a subset of waterbodies in the state.

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. The error value cannot be quantified.

New/Improved Data or Systems: EPA will use grants to encourage states to investigate more waters for the need for advisories. This will increase the number of waterbodies assessed, and lead to a more complete characterization of the nation's fish safety.

References:

1. U.S. EPA. Office of Water. "National Listing of Fish and Wildlife Advisories." Washington, DC: EPA Accessed May 1, 2003. Available only on the internet at <http://map1.epa.gov/>
2. U.S. EPA. Office of Water. "Fish Sampling and Analysis." Volume 1 of "Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories. 3rd ed. EPA-823-B-00-007. Washington DC: EPA, 2000. Available at <http://www.epa.gov/waterscience/fishadvice/volume1/>.
3. U.S. EPA. Office of Water. "Risk Assessment and Fish Consumption Limits." Volume 2 of "Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories. 3rd ed. EPA-823-B-00-008. Washington DC: EPA, 2000. <http://www.epa.gov/waterscience/fishadvice/volume2/>.
4. U.S. EPA. Office of Water. "Quality Management Plan." EPA 821-X-02-001. Washington, DC: EPA, July 2002. Available at http://www.epa.gov/ow/programs/qmp_july2/.

FY 2005 Performance Measure: Percentage of the shellfish-growing acres monitored by states that will be approved for use.

Performance Database: The Shellfish Information Management System (SIMS). The database is being developed and implemented by the National Oceanographic and Atmospheric Administration (NOAA) on behalf of the Interstate Shellfish Sanitation Conference (ISSC), a Cooperative Program chartered by the Food and Drug Administration (FDA). The database will include relevant information that is collected by State Shellfish Control Authorities. Historically, NOAA collected shellfish-growing area data in 5-year intervals, 1985, 1990, and 1995. These data were not stored in a database. Once operational, SIMS will be the first national shellfish growing area database and will include NOAA's 1995 data and new data, available in September, 2003. State summary information can then be used to track trends relevant to the performance measure, with the 1995 data as baseline. The SIMS database is designed as a real time database. The ISSC plans to request data updates annually, but states may update their data any time. These data may be accessed at any time so timely status reports can be generated.

Data Source: EPA is a member of the ISSC SIMS steering committee, along with FDA and NOAA. The SIMS architecture is compatible with other databases using the National Hydrographic Dataset (NHD). The steering committee is confident that the procedures used to collect, analyze, and report the data will result in accurate and reliable data.

Methods, Assumptions and Suitability: SIMS is a real time database and, therefore, will provide up-to-date information.

QA/QC Procedures: States will be responsible for the internal QA/QC of their data. SIMS is designed to use state data to produce nationwide reports.

Data Quality Reviews: The ISSC is developing its SIMS processes to review data submitted by states.

Data Limitations: Based on NOAA's previous surveys and the voluntary nature of the effort, potential data limitations may include incomplete coverage of shellfish growing areas.

Error Estimate: No estimates are available.

New/Improved Data or Systems: SIMS, initiated in September 2003, will be evaluated on a periodic basis to identify and implement improvements.

References: None at this time.

FY 2005 Performance Measure: Restore water quality to allow swimming in stream miles and lake acres identified by states in 2000 as having water quality unsafe for recreation.

[The data narrative for this measure is under Goal 2, Objective 2 -- FY 2005 Performance Measure: Water quality standards are fully attained in miles/acres of waters identified in 2000 as not attaining standards.]

FY 2005 Performance Measure: Percentage of days of the beach season that coastal and Great Lakes beaches monitored by State beach safety programs will be open and safe for swimming.

Performance Database: The data are stored in PRAWN (Program tracking, beach Advisories, Water quality standards, and Nutrients)¹, an new internal database that feeds into the National Health Protection Survey of Beaches Information Management System.² The database includes fields identifying the beaches for which monitoring and notification information are available and the date upon which the advisory or closure was issued, thus enabling trend assessments to be made. Beginning in FY 2003, the database will identify those states that have received a BEACH (Beaches Environmental Assessment and Coastal Health) Act [P.L. 106-284] grant. EPA reports the information annually, on a calendar year basis, each May.

Data Source: Since 1997, EPA has surveyed state and local governments for information on their monitoring programs and on their advisories or closures. State and local governmental response to the survey is voluntary. The number of records on beaches has grown from 1,021 beaches in calendar year 1997 to 2,823 beaches in calendar year 2002. States and local entities collect and report data on a calendar year basis. The calendar year data are then used to support fiscal year commitments (e.g. 2002 calendar year data are used to support the FY 2003 commitments). Starting in calendar year 2003, data for beaches along the coast and Great Lakes must be reported to EPA as a condition of grants awarded under the BEACH Act³. EPA reviews the 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.

Methods, Assumptions and Suitability: The data are a census of beach-specific advisories or closures issued by the reporting state or local governments during the year. Performance against the target is tracked using a simple count of the number of beaches responding to the survey and the advisory or closure actions taken. Thus the data are suitable for the performance measure.

QA/QC Procedures: Since 1997, EPA has distributed a standard survey form, approved by OMB, to coastal and Great Lake state and county environmental and public health beach program officials in hard copy by mail. The form is also available on the Internet for electronic submission. In calendar year 2002, voluntary survey responses included 30 percent from counties, 32 percent from cities, 20 percent from states, 10 percent from regional or districts, and 2 percent from federal entities. When a state or local official enters data over the Internet, 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. Currently the Agency has procedures for information collection (see Office of Water's "Quality Management Plan," approved September 2001 and published July 2002⁴). However, because state and local officials submitted the data voluntarily, the Agency cannot verify the accuracy of the information provided. Starting in 2003, coastal and Great Lakes states receiving a BEACH Act grant are subject to the Agency's grant regulations under 40 CFR 31.45. These regulations require states and tribes to develop and implement quality assurance practices for the collection of environmental information.

Data Quality Review: EPA reviews the survey responses to ensure the information is complete, following up with the state or local government to obtain additional information where needed. The Agency cannot verify the accuracy of the voluntary information state and local governments provide. There have been no external party reviews of this information.

Data Limitations: From calendar year 1997 to calendar year 2002, participation in the survey and submission of data has been voluntary. While the voluntary response rate has been high, it has not captured the complete universe of beaches. The voluntary response rate was 92% in calendar year 2002 (240 out of 261 contacted agencies responded). The number of beaches for which information was collected increased from 1,021 in calendar year 1997 to 2,823 in calendar year 2002. Starting in calendar year 2003 participation in the survey will become a mandatory condition for grants awarded under the BEACH Act program to coastal and Great Lakes states.

However, coastal and Great Lakes states and local governments are not required to apply for a grant. Those coastal and Great Lakes states receiving a BEACH Act grant and subject to the Agency's grant regulations under 40 CFR 31.45 are required to develop and implement quality assurance practices for the collection of environmental information, helping to assure data quality.

Error Estimate: Because submitting data has been voluntary, the database does not contain information on 100% of beaches in the United States. No error estimate is available for this data because the total number of beaches in the U.S. is unknown.

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 FY 2005, EPA expects the 35 coastal and Great Lakes states to apply for grants to implement monitoring and notification programs. The BEACH Act also requires the Agency to maintain a database of national coastal recreation water pollution occurrences. The Agency has fulfilled this requirement by creating a new PRAWN database that includes this information. EPA has also developed eBeaches⁵, a new Internet-based system for secure transmittal of beach advisory and water quality data into PRAWN. This system will make it easier for states to accurately transmit this information to EPA using the Internet.

References

1. U.S. EPA. Office of Waters. "Beach Notification Data User Guide." EPA-823-R-03-005. Washington, DC: EPA, January 2003. Available at <http://www.epa.gov/waterscience/beaches/grants/2003/>
2. U.S. EPA. Office of Water. "National Health Protection Survey of Beaches". Washington, DC: EPA. Accessed May 23, 2003. Available only on the internet at <http://www.epa.gov/waterscience/beaches/>
3. U.S. EPA. Office of Water. "National Beach Guidance and Required Performance Criteria for Grants." EPA-823-B-02-004. Washington DC: EPA, June 2002. Available at <http://www.epa.gov/waterscience/beaches/guidance/all>.
4. U.S. EPA. Office of Water. "Quality Management Plan." EPA 821-X-02-001. Washington, DC: EPA, July 2002. Available at http://www.epa.gov/ow/programs/qmp_july2002.
5. U. S. EPA. Office of Water. "eBeaches." Fact Sheet. EPA-823-F-03-009. Washington, DC, July 2003. Available at <http://www.epa.gov/waterscience/beaches/>

STATUTORY AUTHORITIES

Beaches Environmental Assessment and Coastal Health Act of 2000 (BEACH)

Clean Water Act (CWA)

Emergency Planning and Community Right to Know Act (EPCRA) section 313 (42 U.S.C. 1023)

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

Federal Food, Drug and Cosmetic Act (FFDCA)

Federal Fungicide, Insecticide and Rodenticide Act (FIFRA)

Food Quality Protection Act (FQPA) of 1996

National Environmental Policy Act, Section 102

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

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

Safe Drinking Water Act (SDWA)

Water Resources Development Act (WRDA)

OBJECTIVE: Protect Water Quality

Protect the quality of rivers, lakes, and streams on a watershed basis and protect coastal and ocean waters.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Protect Water Quality	\$2,346,144.8	\$1,647,043.1	\$1,645,669.9	(\$1,373.2)
Environmental Program & Management	\$274,428.9	\$286,677.0	\$290,271.3	\$3,594.3
Science & Technology	\$3,541.2	\$0.0	\$0.0	\$0.0
Building and Facilities	\$1,932.9	\$1,887.0	\$2,025.1	\$138.2
Inspector General	\$12,836.2	\$10,579.2	\$10,623.5	\$44.3
State and Tribal Assistance Grants	\$2,053,405.6	\$1,347,900.0	\$1,342,750.0	(\$5,150.0)
Total Workyears	1,546.0	1,610.2	1,603.9	-6.3

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Categorical Grant: Wastewater Operator Training	\$0.0	\$0.0	\$1,500.0	\$1,500.0
Categorical Grant: Nonpoint Source (Sec. 319)	\$228,776.9	\$238,500.0	\$209,100.0	(\$29,400.0)
Categorical Grant: Water Quality Cooperative Agreements	\$18,155.7	\$19,000.0	\$19,750.0	\$750.0
Categorical Grant: Pollution Control (Sec. 106)	\$193,648.9	\$200,400.0	\$222,400.0	\$22,000.0
Infrastructure Assistance: Alaska Native Villages	\$41,810.6	\$40,000.0	\$40,000.0	\$0.0
Infrastructure Assistance: Clean Water SRF	\$1,386,537.4	\$850,000.0	\$850,000.0	\$0.0
Marine Pollution	\$7,070.0	\$12,049.9	\$12,296.0	\$246.1
Surface Water Protection	\$169,317.7	\$189,230.1	\$190,785.3	\$1,555.2
Congressionally Mandated Projects	\$208,639.3	\$0.0	\$0.0	\$0.0
International Capacity Building	\$1,214.1	\$431.7	\$372.0	(\$59.7)
Administrative Projects	\$90,974.2	\$97,431.4	\$99,466.6	\$2,035.1
TOTAL	\$2,346,144.8	\$1,647,043.1	\$1,645,669.9	(\$1,373.3)

ANNUAL PERFORMANCE GOALS AND MEASURES**Watershed Protection**

- In 2005 500 of the Nation's watersheds have water quality standards met in at least 80% of the assessed water segments.
- In 2005 Water quality standards are fully attained in over 25% of miles/acres of waters by 2012, with an interim milestone of restoring 2% of these waters - identified in 2000 as not attaining standards - by 2005.
- 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.

Performance Measures:

Watersheds that have greater than 80% of assessed waters meeting all water quality standards.

Waterbodies (river miles and lake acres) identified in 2000 as not attaining Water quality standards, are fully attained.

**FY 2003
Actuals**

**FY 2004
Pres. Bud.**
500 (FY 05)

**FY 2005
Pres. Bud.**
500

8-digit HUCs

2

% Miles/Acres

Baseline: As of 2002 state reports 453 watersheds had met the criteria that greater than 80% of assessed waters met all water quality standards. 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. In 2002, 0% of the 255,408 miles/and 6,803,419 acres of waters identified on 1998/2000 lists of impaired waters developed by States and approved by EPA under section 303(d) of the Clean Water Act.

Dredged Material/Ocean Disposal

- In 2005 Improve ratings reported on the national "good/fair/poor" scale of the National Coastal Condition Report for: coastal wetlands loss by at least 0.1 point; contamination of sediments in coastal waters by at least 0.1 point; benthic quality by at least 0.1 point; & eutrophic condition by at least 0.1 point
- In 2005 Scores for overall aquatic system health of coastal waters nationally, and in each coastal region, is improved on the "good/fair/poor" scale of the National Coastal Condition Report by at least 0.1 point

Performance Measures:

Score for overall aquatic system health of coastal waters nationally, and in each coastal region, is improved (cumulative).

Maintain water clarity and dissolved oxygen in coastal waters at the national levels reported in the 2002 National Coastal Condition Report

Improve ratings reported on the national "good/fair/poor" scale of the National Coastal Condition Report for coastal wetlands loss

Improve ratings reported on the national "good/fair/poor" scale of the National Coastal Condition Report for contamination of sediments in coastal waters

Improve ratings reported on the national "good/fair/poor" scale of the National Coastal Condition Report for benthic quality

Improve ratings reported on the national "good/fair/poor" scale of the National Coastal Condition Report for eutrophic condition

**FY 2003
Actuals**

**FY 2004
Pres. Bud.**

**FY 2005
Pres. Bud.**
2.5

Scale score

4.3 / 4.5

Scale score

1.5

Scale score

1.4

Scale score

1.5

Scale score

1.8

Scale score

Baseline: National rating of "fair/poor" or 2.4 where the rating is based on a 5-point system where 1 is poor and 5 is good and is expressed as an aerially weighted mean of regional scores using the National Coastal Condition Report indicators [i.e., water clarity, dissolved oxygen, coastal wetlands loss, eutrophic conditions, sediment contamination, benthic health, and fish tissue contamination]. The 2002 National Coastal Condition Report indicated 4.3 for water clarity and 4.5 for dissolved oxygen, 1.4 for coastal wetlands loss; 1.3 for contamination of sediments in coastal waters; 1.4 for benthic quality; & 1.7 for eutrophic condition.

State/Tribal Water Quality Standards

In 2005 In coordination with other federal partners reduce, by 11%, households on tribal lands lacking access to basic sanitation.

In 2005 Water quality in Indian country will be improved at not less than 35 monitoring stations in tribal waters for which baseline data are available (i.e., show at least a 10% improvement for each of four key parameters: total nitrogen, total phosphorus, dissolved oxygen, and fecal coliforms.)

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.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud. 20	FY 2005 Pres. Bud.	
States with new or revised water quality standards that EPA has reviewed and approved or disapproved and promulgated federal replacement standards.				States
Tribes with water quality standards adopted and approved (cumulative).		33		Tribes
Number of monitoring stations (for which baseline data on 4 key parameters are available) where water quality is improved.			35	Stations
Number of households on tribal lands lacking access to basic sanitation.			11	% Households

Baseline: 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. In 2002, there will be four key parameters available at 900 sampling stations in Indian country. In 2002, Indian Health Service indicates that 71,000 households on Tribal lands lack access to basic sanitation.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Performance Measure: Watersheds in which at least 80% of the assessed water segments meet water quality standards.

Performance Database: The Watershed Assessment Tracking Environmental Results System (WATERS) (1) 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 (2), the Assessment Database (3) and the Water Quality Standards database (4). Water quality information available through WATERS includes data submitted by the states under Clean Water Act (CWA) Section 305(b). These data are submitted to EPA every two years, with annual electronic updates. The U.S.EPA summarizes these data in the *National Water Quality Inventory Report*. (5)

Data Source: State CWA Section 305(b) reporting. The data used by the states to assess water quality and prepare CWA Section 305(b) reports come from multiple sources (state monitoring networks, United States Geological Survey (USGS), local governments, volunteer monitors, academic institutions, etc.) as well as predictive tools such as water quality models. Raw data may be entered by states and other sources into STORET. States compare available ambient monitoring data to their water quality standards to arrive at assessment results. Assessment results are then entered into the Assessment Database. EPA uses the assessment results to present a snap-shot of water quality as reported by the states (the *National Water Quality Inventory Report*), but because state methods and water quality standards vary widely, does not use the assessment results to report trends in water quality.

Information on each state's assessment methodology can be obtained from its 305(b) report, and raw data entered into STORET must meet metadata standards.

Methods, Assumptions and Suitability: States employ various methods of ambient water data collection, including: 1) Direct sampling of chemical, physical, and biological parameters using targeted site selection (usually, where problems are most likely or where water is heavily used); 2) Predictive models of water quality standards attainment; 3) Direct sampling at statistically-valid, probability-based sampling networks (in its early stages in a number of states); 4) Compilation of data from outside sources such as volunteer monitors, academic institutions,

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 assessment information by watershed (as described above) to generate the national performance measure. State assessment results 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, in that subset of waters that are assessed. However, nationally aggregated data are currently not suitable for year-to-year comparisons. As states update their monitoring programs to include probabilistic monitoring, EPA will be able to conduct nationally aggregated, year-to-year comparisons.

QA/QC Procedures: QA/QC of data provided by states in their individual assessments (under CWA Section 305(b)) and accessed through WATERS is dependent on individual state procedures. Numerous system level checks are built into the data sources in WATERS, based upon the business rules associated with the water quality assessment database. States are given the opportunity to review the information to ensure it accurately reflects the data 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 2002 (6). 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 water quality monitoring and reporting undermine EPA's ability to depict the condition of the Nation's waters, to make trend assessments, 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* (7), the March 15, 2000 General Accounting Office report *Water Quality: Key Decisions Limited by Inconsistent and Incomplete Data* (8), the 2001 National Academy of Sciences Report, *Assessing the TMDL Approach to Water Quality Management* (9), a 2002 National Academy of Public Administration Report, *Understanding What States Need to Protect Water Quality* (10), and EPA's *Draft Report on the Environment* (11). Water quality reporting under Section 305(b) has been identified as an Agency-Level weakness under the Federal Managers Financial Integrity Act.

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.

The Office of Water has issued several recent guidance documents designed to increase consistency and coverage in state monitoring, assessment and reporting. In November 2001, EPA issued its Integrated Reporting guidance (12) which calls on states to integrate the development and submission of 305(b) water quality reports and Section 303(d) lists of impaired waters. The Integrated Report will enhance the ability of water quality managers to display, access, and integrate environmental data and information from all components of the water quality program. In July 2002, EPA released the *Consolidated Assessment and Listing Methodology - a Compendium of Best Practices* (13), intended to facilitate increased consistency in monitoring program design and in the data and decision criteria used to support water quality assessments. And in March 2003, EPA issued *Elements of a State Water Monitoring and Assessment Program* (14) which describes ten elements that each state water quality-monitoring program should contain and a ten-year time frame for implementing all elements. As part of each state's monitoring strategy, state data will be accompanied by quality assurance plans.

EPA has enhanced two existing data management tools (STORET and the Assessment Database) so that they include documentation of data quality information. EPA's WATERS tool integrates many databases including STORET, the Assessment Database, and the Water Quality Standards Database. These integrated databases facilitate comparison and understanding of differences among state standards, monitoring activities, and assessment results.

Data Limitations: Data are not representative of comprehensive national water quality assessments because most states do not yet employ a monitoring design that characterizes all waters in each reporting cycle. States, territories, and tribes collect data and information on only a portion of their water bodies because it is prohibitively expensive to monitor all water bodies. Furthermore, 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 condition to levels of dissolved oxygen to concentrations of toxic pollutants. State water quality standards themselves vary from state to state. State assessments of water quality may include uncertainties associated with derived or modeled data. These variations in state practices and standards limit how the assessment reports they provide can be used to describe water quality at the national level and prevent the agency from aggregating water quality assessments at the national level with known statistical confidence.

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 EPA's 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.

The Agency's FY2005 budget request includes a significant increase to support water quality monitoring improvements. A state grants component will support states' implementation of monitoring strategies, including refinement of biological assessment methods and probability-based designs for different water resource types, landscape models and other predictive tools, remote sensing and innovative indicators of water quality to help streamline where additional monitoring is needed, and targeted monitoring to provide data to implement local management actions such as National Pollution Discharge Elimination Program (NPDES) permits and Total Maximum Daily Loads (TMDLs). The initiative will also support improvement of data management systems to ensure that water quality monitoring data are understandable and available to all who need it. Included here are upgrades to STORET, to improve system navigation and operation and to enhance analysis and presentation applications. Funds will also support enhancing the capability to exchange water quality data with states.

References:

1. WATERS available on-line at www.epa.gov/waters. Aggregate national maps and state and watershed specific data for this measurement are displayed numerically and graphically in the WATERS database.
2. STORET available online at www.epa.gov/STORET. Links to user guide and descriptions of the database can be found here.
3. Assessment Database information available at <http://www.epa.gov/waters/305b/>
4. Water Quality Standards Database information available at www.epa.gov/wqsdatabase/
5. U.S. EPA, Office of Water. *National Water Quality Inventory, 2000 Report*. Washington, D.C.: August 2002. EPA 841-R-02-001. Available at www.epa.gov/305b/2000Report
6. U.S. EPA. *Office of Water Quality Management Plan*. Washington, DC: July 2002. EPA 831-X-02-001. Available at http://www.epa.gov/ow/programs/qmp_july2002.pdf

7. National Advisory Council for Environmental Policy and Technology. *Report of the Federal Advisory Committee on the Total Maximum Daily Load Program*. 1998. EPA 100-R-98-006. Available at <http://www.epa.gov/owow/tmdl/faca/tofc.htm>.
8. General Accounting Office. *Water Quality: Key EPA and State Decisions Limited by Inconsistent and Incomplete Data*. Washington, DC: March 15, 2000. GAO/RCED-00- 54.
9. National Research Council, Committee to Assess the Scientific Basis of the Total Maximum Daily Load Approach to Water Pollution Reduction. *Assessing the TMDL Approach to Water Quality Management*. National Academy Press, Washington, DC: 2001.
10. National Academy of Public Administration. *Understanding What States Need to Protect Water Quality*. Washington, D.C: December 2002. Academy Project No. 2001- 001. Available at www.napawash.org
11. U.S. EPA. *Draft Report on the Environment 2003*. July 2003. EPA 260-R-02-006. Available at <http://www.epa.gov/indicators/roe/index.htm>
12. U.S. EPA, Office of Water. "Integrated Water Quality Assessment and Report Guidance." November 19, 2001. Available at <http://www.epa.gov/owow/tmdl/2002wqma.html>
13. U.S. EPA, Office of Water. "Consolidated Assessment and Listing Methodology. Toward a Compendium of Best Practices." (First Edition). Washington, DC: July 31, 2002. Available at www.epa.gov/owow/monitoring/calm.html
14. U.S. EPA, Office of Water. *Elements of a State Water Monitoring and Assessment Program*. Washington, DC: March 2003. EPA 841-B-03-003. Available at: www.epa.gov/owow/monitoring

FY 2005 Performance Measure: Water quality standards are fully attained in miles/acres of waters identified in 2000 as not attaining standards.

Performance Database: The Watershed Assessment Tracking Environmental Results System (WATERS– found at <http://www.epa.gov/waters/>) is the overarching Agency tool that is used to store water quality information related to this measure. Within WATERS, resides a section entitled “303(d) Information,” compiled from the comprehensive data set we refer to as *States’ Listings of Impaired Waters as Required by Clean Water Act Section 303(d)* (referred to here in brief as “303(d) lists”). This tool (found at <http://www.epa.gov/owow/tmdl/status.html>) is used to generate reports that identify individual impaired waters as well as an aggregation of impaired waters that is the total impaired river-miles and lake-acres. This information, combined with information and comment from EPA Regions and states, yields the baseline data for this measure– river-miles and lake-acres of impaired waters in 2000. As Total Maximum Daily Loads (TMDL) are developed, updated and entered into the National TMDL Tracking System (NTTS), and water bodies are no longer counted as impaired, the associated restored river-miles and lake-acres are removed from the year 2000 impaired totals. Changes will be recorded in reports, scheduled every 6 years (e.g. future reporting years 2006 and 2012), as percentage improvements to water body impairment.

Data Source: The underlying data source for this measure is State 303(d) lists of their impaired water bodies. Each state is required to submit this list to EPA every two years. States prepare the lists using actual water quality monitoring data, probability-based monitoring information, and other information and knowledge the state has, in order to make comprehensive determinations addressing the total extent of the state’s water body impairments. Once EPA approves a state’s 303(d) list, EPA enters the information into WATERS, as described above.

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 ambient water quality 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 303(d) lists (under CWA Section 303(d)) is dependent on individual state procedures. EPA Regional staff interact with the states during the process of approval of the lists and before the information is entered into the database to ensure the integrity of the data. 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 (e.g., those programs involved in 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*²², the March 15, 2000 General Accounting Office report *Water Quality: Key Decisions Limited by Inconsistent and Incomplete Data*²³, the 2001 National Academy of Sciences Report *Assessing the TMDL Approach to Water Quality Management*²⁴ and EPA's *Draft Report on the Environment*.²⁵

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 Practices²⁶ (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.

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 may not precisely represent the extent of impaired waters because states do not yet employ a monitoring design that monitors all waters in each 303(d) listing cycle. States also 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 303(d) lists 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 water bodies. There are differences among their programs, sampling techniques, and standards.

²² *Report of the Federal Advisory Committee on the Total Maximum Daily Load Program*. 1998. National Advisory Council for Environmental Policy and Technology. EPA Number 100R98006. National Center for Environmental Publications]

²³ *Water Quality: Key EPA and State Decisions Limited by Inconsistent and Incomplete Data*. March 15, 2000. RCED-00-54 and *Water Quality: Inconsistent State Approaches Complicate Nation's Efforts to Identify Its Most Polluted Waters*. January 11, 2002

²⁴ *Assessing the TMDL Approach to Water Quality Management*. 2001. Committee to Assess the Scientific Basis of the Total Maximum Daily Load Approach to Water Pollution Reduction, Water Science and Technology Board, National Research Council

²⁵ US EPA. *Draft Report on the Environment 2003*. July 2003. EPA 260-R-02-006. Available at <http://www.epa.gov/indicators/roe/index.htm>

²⁶ U.S. EPA. (July 31, 2002). Consolidated Assessment and Listing Methodology. Toward a Compendium of Best Practices. (First Edition). Washington, DC: Office of Wetlands, Oceans, and Watersheds. Available on the Internet: Monitoring and Assessing Water Quality www.epa.gov/owow/monitoring/calm.html

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 Systems: The Office of Water has been working with states to improve the guidance under which 303(d) lists are prepared. EPA issued new listing Guidance on July 21, 2003 entitled *Guidance for 2004 Assessment, Listing, and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act* (Guidance). The Guidance may be found at: <http://www.epa.gov/owow/tmdl/tmdl0103/index.html>. The Guidance addresses a number of issues that states and EPA identified during the 2002 listing cycle. Among these issues are minimum data requirements and sample size requirements in making listing determinations, use of probability-based sampling in the state's monitoring program, improved year-to-year consistency in a choice of a geo-referencing scheme, and use of a consistent method of segmenting water bodies and denoting changes to the segmentation between listing cycles.

References: Cited in body of text above.

FY 2005 Performance Measure: Water quality in Indian country

Performance Database: National Water Information System (NWIS), the USGS water monitoring database will be used to report on this measure (<http://waterdata.usgs.gov/nwis/usa>). Although NWIS has not yet adopted the EPA Tribal Identifier Data Standard (see [http://oaspub.epa.gov/edr/epastd\\$.startup](http://oaspub.epa.gov/edr/epastd$.startup)), the AIEO Tribal Information Management System (<https://oasint.rtpnc.epa.gov/TIMS/>) (phone 202-564-0303 for password access) can extract records from NWIS on the basis of reservation boundaries, enabling both data systems to provide tribal water quality data for this performance measure. NWIS records monitoring dates, so time series analysis will be a key feature of the Indian country water quality performance measure.

Data Sources: NWIS merges of all USGS district offices, and consists primarily of data collected by USGS field staff, either on a regular basis or for special projects.

QA/QC Procedures: Quality assurance for the Indian country water quality performance measure depends on the quality of the USGS NWIS data system. Documentation for NWIS quality assurance may be found at: (<http://water.usgs.gov/pubs/ddc/wqn96cd/html/wqn/qasure/qasure.htm>).

Data Quality Reviews: Two quality reviews are envisioned. The first will be a comparison of the federal data, in aggregate, and the water quality data reported by the tribes in CWA §106 water quality assessment reports. The review will be conducted for five tribal reservations. The second is a comparison of Storage and Retrieval System (STORET) data, EPA's repository of water quality monitoring data reported by states, tribes, other grantees, and other federal agencies, and NWIS water quality data for similar tribal geographic areas; this review is dependant upon future increased STORET use by tribes. The results of these two data quality reviews will allow AIEO to estimate a range of variation for the data used in the water quality assessments.

Data Limitations: The data collected for the tribal water quality performance measure are limited by the accuracy of the reservation boundary files used by AIEO. The files, IND-3, are distributed by the Bureau of Indian Affairs Geographic Data Service Center, (Internet site disabled). There are minor variations between the files provided by BIA and other sources of tribal boundary files. In an analysis of selected reservation boundaries, AIEO has determined that there is an approximately a 5% variation between the files from the BIA IND-3 dataset, and the Census Tiger files of reservation boundaries (http://www.census.gov/geo/www/cob/bdy_files.html).

Error Estimate: AIEO estimates an approximately 5% error in the identification of water monitoring sites that fall inside reservation boundaries because of errors in tribal boundaries and latitude and longitude of monitoring sites, resulting in errors in the extraction of geographic records from NWIS. The overall error of the performance measure is expected to be the percent variation in the water quality data from different sources (STORET, water quality assessment reports from tribes, NWIS) compounded by the error introduced by inaccuracies in boundary files. AIEO expects a 5% or greater error in the analysis, depending on the magnitude of the variation of the data from the different sources used.

New/Improved Data or Systems: As NWIS adopts a tribal identifier code, AIEO will no longer have to rely on geographic extraction of data records and that source of error will be eliminated. To date, USGS has not announced plans to tribally index their water quality data systems.

A key improvement in EPA's ability to assess tribal water quality will be the enhancement of tribes' usage of STORET. Plans are in place to improve outreach and technical assistance to tribes and states to encourage greater use of the system, and to use STORET's capabilities to upload local information to the national data warehouse. This will facilitate determinations of water quality status and trends nationwide and in Indian country in particular. EPA will also work to incorporate into STORET the agency's new Tribal Identifier Data Standard to further facilitate assessing tribal water quality information.

References:

1. U.S. Environmental Protection Agency. STORET Database. <http://www.epa.gov/STORET/>.
2. U.S. Environmental Protection Agency. American Indian Environmental Office. TIMS Database <https://oasint.rtpnc.epa.gov/TIMS/>
3. U.S. Geological Survey. Water Resources Division. NWIS Database <http://waterdata.usgs.gov/nwis/usa>.
4. Bureau of Indian Affairs. (2000). IND-3 Indian Reservations. Geographic Data Service Center, Lakewood, CO. (internet site disabled).
5. U.S. Census Bureau. Geographic Division. 2000 Census Tiger Files of American Indian Areas http://www.census.gov/geo/www/cob/bdy_files.html

FY 2005 Performance Measure: In coordination with other federal partners, reduce the number of households on tribal lands lacking access to basic sanitation.

Performance Database: The American Indian Environmental Office (AIEO) has been in the forefront of working with multiple agencies on a federal interagency Tribal Enterprise Architecture. Much of the work falls under the auspices of OMB Circular A-16 on coordination of federal geographic data across federal agencies (OMB 2003). The Tribal Enterprise Architecture includes access to a wide variety of data and information from several agencies and numerous sources within those agencies. It also includes several AIEO and jointly- developed applications to determine environmental performance in Indian country for a variety of specific purposes, including strategic planning and annual reporting under the Government Performance and Results Act. The components of the Tribal Enterprise Architecture create a broad, multi-variant view of the environmental conditions and programs in Indian country. EPA will track the status of federal and other basic sanitation infrastructure projects being undertaken in Indian country.

Data Sources: AIEO Tribal Enterprise Architecture will be linked to the Indian Health Service (IHS) Sanitation Tracking and Reporting System (STARS) database, which will be used to measure tribal access to basic sanitation in real-time. IHS STARS database, Level 4 (unsafe water or sanitation) and Level 5 (unsafe water and sanitation) information will be analyzed.

While the information from the STARS database is reported in the aggregate to Congress on an annual basis, the real-time data allow EPA to link IHS codes with EPA tribal codes on a project- by-project basis. It is anticipated that a significant percentage of other federal activity, besides EPA and IHS,— which provides tribes access to basic sanitation is captured in the IHS STARS system. AIEO will make the appropriate interagency inquiries to verify that all data are captured.

QA/QC Procedures: All the data used in the Tribal Enterprise Architecture project have quality assurance and metadata documentation prepared by the originating agency. AIEO works to standardize data and use metadata standards as established by the Federal Geographic Data Committee.

Data Quality Reviews: A unique feature of the Tribal Enterprise Architecture is the direct incorporation of a data center for documentation of errors and correction of text in the various data systems. This system, called the TIMS Data Center, provides for the systematic review and submission of corrections for 1) numeric and factual data from the national data systems used, and 2) qualitative statements made in a textual context. In the case of corrections to national databases, AIEO monitors submissions, and forwards them to appropriate systems administrators who make decisions on changes based on their criteria

Data Limitations: 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: In an analysis of selected reservation boundaries, AIEO has determined that there is a 5% variation between the Bureau of Indian Affairs’ IND-3 reservation boundaries and those from the United States Census Bureau (e.g., U.S. Census Tiger file of reservation boundaries). Another source of error comes from records that are not sufficiently described geographically to be assigned to specific tribes. For some agencies, such as USGS, the geographic record is complete, so there are no errors 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 Tribal Enterprise Architecture are all new and state-of-the art. Everything is delivered securely on the Internet with no need for special software or desktop data disks. 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 Tribal Enterprise Architecture 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 an intermediate server.

References:

1. Office of Management and Budget (2003). Circular A-16 Revised. http://www.whitehouse.gov/omb/circulars/a016/a016_rev.html
2. U.S. Environmental Protection Agency (1998). Office of Water Indian Strategic Plan.
3. GAP Grant Tracking System. <http://gap.tetratech-ffx.com> (password available upon request)
4. Tribal Enterprise Architecture <http://everest.sdc-moses.com/TRIBAL/index3.html> (password available upon request)
5. Indian Health Service. Sanitation Tracking and Reporting System. <http://wstars.geonorth.com> (password available upon request)
6. TIMS Data Center. <http://it-tetratech-ffx.com/tribal/> (password available upon request)
7. U.S. Environmental Protection Agency. 2003. Implementing EPA’s Information Quality Guidelines: Guidance on Information Products Developed by the Office of the Chief Financial Officer.

FY 2005 Performance Measures: Prevent water pollution and protect aquatic systems so that overall aquatic system health of coastal waters nationally, and in each coastal region, is improved on the “good/fair/poor” scale of the National Coastal Condition Report.

Maintain water clarity and dissolved oxygen in coastal waters at the national levels reported in the 2002 National Coastal Condition Report.

Improve ratings reported on the national “good/fair/poor” scale of the National Coastal Condition Report for: coastal wetlands loss by at least .1 points; contamination of sediments in coastal waters by at least .1 points; benthic quality by at least .1 points; & eutrophic condition by at least .1 points

Performance Database: EMAP/NCA [Environmental Monitoring and Assessment Program/National Coastal Assessment] database (housed EPA/ORD/NHEERL/AED, Narragansett, RI)(Environmental Protection Agency/Office of Research and Development/National Health and Environmental Effects Research Laboratory/Gulf Ecology Division); pre-database information housed in ORD/NHEERL facility in Gulf Breeze, FL (Gulf Ecology Division) (pre-database refers to a temporary storage site for data where it is examined for QA purposes, has appropriate metadata attached to it and undergoes initial statistical analyses); data upon QA acceptance and metadata completion is transferred to EMAP/NCA database and is web available at www.epa.gov/emap/nca.

Data Source: Probabilistic surveys of ecological condition completed throughout the Mid- Atlantic and Gulf of Mexico by EPA's Office of Research and Development (ORD) in 1991-1994, in southern Florida in 1995, in the Southeast in 1995-1997, in the Mid-Atlantic in 1997-1998, in each coastal state in 2000-2004 (except Alaska and Hawaii), in Alaska in 2002 and 2004, in Hawaii in 2002 and 2004, and in Puerto Rico in 2000 and 2004, and in other island territories (Guam, American Samoa and U.S. Virgin Islands in 2004). Surveys collect condition information regarding water quality, sediment quality and biotic condition at 70-100 sites/region (e.g., mid-Atlantic) each year of collection prior to 1999 and at 35-150 sites in each state or territory/year (site number dependent upon state) after 1999. Additional sampling was completed in the National Estuary Programs, including all individual national estuaries. Additional NEP sampling included sufficient sites to increase total sites within NEP boundaries to 30 for a two-year period between 2000-2003.

This "third party" data is collected through a joint EPA-State cooperative agreement and the States follow a rigid sampling and collection protocol following intensive training by EPA personnel. Laboratory processing is completed at either a state laboratory or through a national EPA contract. Both entities are subject to the development of a QAPP (either the National Coastal QAPP or one of their developments based on this QAPP) and QA testing and auditing by EPA.

Methods, Assumptions and Suitability: The surveys are conducted using a probabilistic survey design comprised to permit extrapolation of results to the entire target population (in this case - all estuarine resources of the specific state). The design maximizes the spatial spread of the sites and locating each site based on a specific latitude-longitude combination. The survey utilizes an index sampling period (generally late summer) to maximize encountering water quality, sediment quality and biotic condition problems, if they exist. Based on the QAPP and the field collection manual, a site in a specific state is located by sampling vessel via Global Positioning System (GPS) and water quality is measured on board at multiple depths. Water samples are taken for chemistry; sediment samples are taken for chemistry, toxicity testing and benthic community assessment; and fish trawls are conducted to collect community fish data and provide selected fish (target species) for analysis of whole body and/or fillet contaminant concentrations. Samples are stored in accordance with field manual and shipped to the processing laboratory. Laboratories follow QA plans and complete analyses and provide electronic information to state or EPA. For data not directly provided to EPA from laboratories, state forward data to EPA. For data not provided directly to states, EPA forwards data to states. EPA analyzes data to assess regional condition and states analyze data to assess condition of state-specific waters. Results of analyses on a national and regional basis are reported as chapters in the National Coastal Condition Report series. The overall regional condition index is the mean of the rating scores of the indicators used in successive versions of the Coastal Condition Report (see last section). An improvement for one of the indicators by a full category unit over the eight year period will be necessary for the regional estimate to meet the performance measure goal (+0.2 over an eight year period).

Assumptions: (1) The underlying target population (estuarine resources of the United States) has been correctly identified; (2) GPS operation is successfully located; (3) QAPP and field collection manuals are followed; (4) all samples can be successfully collected; (5) all analyses are completed in accordance with QAPP; and (6) all combinations of data into indices are completed in a statistically rigorous manner.

Suitability: By design all data are suitable to be aggregated to the state and regional level to characterize water quality, sediment quality, and biotic condition. Samples represent "reasonable", site-specific point-in-time data (not primary intention of data use) and an excellent population representation of the entire resource (extrapolation to entire resource supportable). The intended use of the data is the characterization of populations and subpopulations of estuarine resources through time. The data meets this expectation and the sampling design, response design, analysis approach and reporting approach have been peer reviewed successfully multiple times. The data are suitable for individual year characterization of condition, comparison of condition across years, and assessment of long-term trends once sufficient data are collected (7-10 years). Data are suitable for use in National Coastal Condition calculations for the United States and its regions as necessary to provide performance measurement information.

QA/QC Procedures: The sampling collection and analysis of samples are controlled by a Quality Assurance Project Plan (QAPP) [EPA 2001] and the National Coastal Assessment Information Management Plan (IMP)[EPA 2001]. These plans are followed by all twenty-three coastal states and 5 island territories. Adherence to the plans are determined by field training (conducted by EPA ORD), field audits (conducted by EPA/ORD), round robin testing of chemistry laboratories (conducted by EPA/ORD), overall systems audits of state programs and national laboratory practices (conducted by EPA), sample splits (sent to reference laboratories), blind samples (using

reference materials) and overall information systems audits (conducted by EPA/ORD). All states are subject to audits at least once every two years these controls at least once every two years for audits, training in year 2000 and retraining sessions every two years, and batch sample processing (including QA samples in each batch) for laboratory analyses.

Data Quality Reviews: Data quality reviews have been completed in-house by EPA ORD at the regional and national level in 2000-2003 (National Coastal Assessment 2000-2003) and by the Office of Environmental Information (OEI) in 2003 (assessment completed in June, 2003 and written report not yet available; oral debriefing revealed no deficiencies). No deficiencies were found in the program. A national laboratory used in the program (University of Connecticut) for nutrient chemistry, sediment chemistry and fish tissue chemistry is being evaluated by the Inspector General's Office for inappropriate behavior and potential falsification of laboratory results in connection with other programs not related to NCA. A full investigation has not been completed by the IG and in the interim has not determined any wrongdoing by the personnel associated with NCA. Our program has conducted an internal audit assessment and investigation and could determine only one finding, which was an incorrect use of a chemical digestion method for inorganic chemistry samples (metals). This finding has been corrected and all samples "digested" incorrectly have been reanalyzed at no cost.

Data Limitations: Data limitations are few. Because the data are collected in a manner to permit calculation of uncertainty and designed to meet a specific Data Quality Objective (DQO) (<10% error in spatial calculation for each state estimate annually), the results at the regional level (appropriate for this performance measure) are within about 2- 4% of true values dependent upon the specific sample type. Other limitations as follows: (a) even though methodology errors are minimized by audits, in the first year of the NCA program (2000) some errors occurred resulting in loss of some data. These problems were corrected in 2001 and no problems have been observed since then. (b) In some instances, (<5%) of sample results, a QA finding is determined regarding the precision of a measurement (control mortality toxicity testing exceeds limit detection limit for a chemistry batch exceeds limit, etc.). In these cases, the data are "flagged" in the database so that users are aware of the potential limitations. (c) Because of the sampling/ analysis design, the loss of data at a small scale (~ 10%) does not result in a significant increase in uncertainty in the estimate of condition. Wholesale data losses of multiple indicators throughout the U.S. coastal states and territories would be necessary to invalidate the performance measure. (d) The only source of external variability in year-to-year climatic variation (drought vs. wet, etc.) and the only source of internal variation is modification of reporting indicators (e.g., new indices, not a change in sample indicators collected and analyzed). This internal reporting modification required a re-analysis of earlier information to permit direct comparison (e). There is generally a 2-3 year lag from the time of collection until reporting. Sample analysis generally takes 1 year and analysis takes 1 year. Report production and peer review generally take an additional year. (F) Data collections are completed annually; however, the EPA/ORD program for this collection will occur through 2004. After 2004, ORD will assist OW as requested to provide expertise but the conduct of the surveys after 2004 will no longer be supported (financially) by EPA ORD.

Error Estimate: The estimate of condition (upon which the performance measure is determined has an annual uncertainty rate of about 2-3% for national condition, about 5-7% for individual regional indicators (composite of all five states data into a regional estimate), and about 9-10% for individual state indicators.

New/Improved Data or Systems:

- (1) Changes have occurred in the data underlying the performance measure based on scientific review and development. A change in some reporting indicators has occurred in order to more accurately represent the intended ecological process or function. For example, a new eutrophication index was determined for the 2000 data. In order to compare this new index to the 1991-1994 data, the earlier data results must be recomputed using the new technique. This recalculation is possible because the underlying data collection procedures have not changed.
- (2) New national contract laboratories have been added every year based on competition. QA requirements are met by new facilities and rigorous testing at these facilities is completed before sample analysis is initiated. QA adherence and cross-laboratory sample analysis has minimized data variability resulting from new laboratories entering the program.

- (3) The only reason for the discontinuance of the National performance goal would be the elimination of the surveys after 2004.

In order to continue to utilize the 2001 National Coastal Condition report as the baseline for this performance measure, the original scores reported in 2001 have been re-calculated in the pending 2004 report using the index modifications described above (#1). These “new” results for the baseline (re-calculated scores) are reported in Appendix C of the pending report scheduled for release in fall 2004.

References:

1. Environmental Monitoring and Assessment Database (1990-1998) and National Coastal Assessment Database (2000- 2004) websites: www.epa.gov/emap and www.epa.gov/emap/nca (NCA data for 2000 is only data available at present)
2. National Coastal Assessment. 2000-2003. Various internal memoranda regarding results of QA audits. (Available through John Macauley, National QA Coordinator NCA, USEPA, ORD/NHEERL/GED, 1 Sabine Island, Gulf Breeze, FL 32561)
3. National Coastal Assessment. 2001. Quality Assurance Project Plan. EPA/620/R- 01/002.(Available through John Macauley above)
4. National Coastal Assessment. 2001. Information Management Plan. EPA/620/R-01/003 (Available through Stephen Hale, NCA IM Coordinator, ORD/NHEERL/AED, 27 Tarzwell Drive, Narragansett, RI)
5. U.S. Environmental Protection Agency. 2001. National Coastal Condition Report. EPA-620/R- 01/005.
6. U.S. Environmental Protection Agency. 2004. National Coastal Condition Report II. In review Assigned Report Number EPA-620/R-04/001 (expected release date - fall 2004).

STATUTORY AUTHORITIES

Annual Appropriations Acts
Certain Alaskan Cruise Ship Operations Act (PL 106-554)
Clean Vessel Act
Clean Water Act (CWA)
Coastal Zone Act Reauthorization Amendments of 1990
Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
Marine Plastic Pollution, Research and Control Act (MPPRCA) of 1987
Marine Protection, Research and Sanctuaries Act (MPRSA)
National Environmental Policy Act, Section 102
National Invasive Species Act of 1996
North American Free Trade Agreement (NAFTA)
Ocean Dumping Ban Act of 1988
Organotin Antifouling Paint Control Act (OAPCA)
Pollution Prevention Act (PPA)
Resource Conservation and Recovery Act (RCRA)
Safe Drinking Water Act (SDWA)
Shore Protection Act of 1988
Toxic Substance Control Act (TSCA)
Water Resources Development Act (WRDA)
Wet Weather Water Quality Act of 2000

OBJECTIVE: Enhance Science and Research

Provide and apply a sound scientific foundation to EPA's goal of clean and safe water by conducting leading-edge research and developing a better understanding and characterization of the environmental outcomes under Goal 2.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Enhance Science and Research	\$119,269.5	\$120,501.6	\$120,959.1	\$457.5
Environmental Program & Management	\$18,346.3	\$21,640.6	\$22,084.0	\$443.3
Science & Technology	\$97,900.4	\$95,708.8	\$95,527.1	(\$181.7)
Building and Facilities	\$2,481.7	\$2,508.8	\$2,702.6	\$193.8
Inspector General	\$540.9	\$643.3	\$645.4	\$2.1
Total Workyears	535.7	526.7	526.5	-0.1

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Surface Water Protection	\$520.9	\$1,004.4	\$1,011.3	\$6.9
Congressionally Mandated Projects	\$4,328.9	\$0.0	\$0.0	\$0.0
Research: Drinking Water	\$43,253.7	\$46,053.4	\$46,118.1	\$64.7
Research: Water Quality	\$46,934.1	\$47,178.5	\$46,809.8	(\$368.7)
Administrative Projects	\$24,231.9	\$26,265.3	\$27,019.9	\$754.6
TOTAL	\$119,269.5	\$120,501.6	\$120,959.1	\$457.5

ANNUAL PERFORMANCE GOALS AND MEASURES***Research*****Scientific Rationale for Surface Water Criteria**

In 2005 Provide methods for developing water quality criteria so that, by 2008, approaches and methods are available to States and Tribes for their use in developing and applying criteria for habitat alteration, nutrients, suspended and bedded sediments, pathogens and toxic chemicals that will support designated uses for aquatic ecosystems and increase the scientific basis for listing and delisting impaired water bodies under Section 303(d) of the Clean Water Act.

Performance Measures:

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Methods for developing water quality criteria based on population-level risks of multiple stressors to aquatic life and aquatic-dependent wildlife.			09/30/05	methods

Baseline: State, Tribal, and EPA programs that assess, maintain, and restore water quality are all dependent upon the ability to define water quality standards that, when met, are protective of the designated and desired use of streams, lakes, and estuaries. The scientific bases for such standards are water quality criteria that relate biological outcomes (e.g., fish populations, aquatic wildlife communities, threatened and endangered species) to measurable water quality parameters (e.g., nutrients, suspended and embedded sediments, chemical concentrations). Relatively recent and Congressionally-mandated studies by the National Research Council call for continued and more targeted scientific studies on water quality criteria that reflect observed environmental variations and that reflect the multiple influence of habitat alteration, regional and watershed conditions, and appropriate designated uses. Accordingly, EPA has modified its longstanding research on water quality criteria to address these issues. Scientific outputs from this research can be integrated into EPA technical guidance to the States and Tribes. Adoption and deployment of new criteria developed with the assistance of the new methods and approaches will improve the cost-effectiveness of TMDL's and related restoration efforts. Beginning in FY 2005, regular evaluations by independent and external panels will provide reviews of EPA research programs' relevance, quality, and successful performance to date, in accordance with OMB's Investment Criteria for Research and Development. Reviewers will also qualitatively determine whether EPA has been successful in meeting its annual and long-term commitments for research. Recommendations and results from these reviews will improve the design and management of EPA research programs and help to measure their progress under the Government Performance and Results Act (GPRA).

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Performance Measure: Methods for developing water quality criteria based on population-level risks of multiple stressors to aquatic life and aquatic-dependent wildlife.

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: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

STATUTORY AUTHORITIES

Clean Air Act (CAA)

Clean Vessel Act

Clean Water Act (CWA)

Coastal Wetlands Planning, Protection, and Restoration Act of 1990

Coastal Zone Act Reauthorization Amendments of 1990

Endangered Species Act

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

Marine Plastic Pollution, Research and Control Act (MPPRCA) of 1987

Marine Protection, Research and Sanctuaries Act (MPRSA)

National Invasive Species Act of 1996

North American Wetlands Conservation Act

Ocean Dumping Ban Act of 1988

Safe Drinking Water Act (SDWA)

Shore Protection Act of 1988

Toxic Substances Control Act (TSCA)

Water Resource Development Act (WRDA)

Goal 3: Land Preservation and Restoration

STRATEGIC GOAL: Preserve and restore the land by using innovative waste management practices and cleaning up contaminated properties to reduce risks posed by releases of harmful substances.

BACKGROUND AND CONTEXT

Left uncontrolled, hazardous and nonhazardous wastes on the land can migrate to the air, groundwater, and surface water, contaminating drinking water supplies, causing acute illnesses or chronic diseases, and threatening healthy ecosystems in urban, rural, and suburban areas. Hazardous substances can kill living organisms in lakes and rivers, destroy vegetation in contaminated areas, cause major reproductive complications in wildlife, and otherwise limit the ability of an ecosystem to survive.

MEANS AND STRATEGY

EPA will work to preserve and restore the land using the most effective waste management and cleanup methods available. EPA will use a hierarchy of approaches to protect the land: reducing waste at its source, recycling waste, and managing waste effectively by preventing spills and releases of toxic materials and cleaning up contaminated properties. The Agency is especially concerned about threats to our most sensitive populations, such as children, the elderly, and individuals with chronic diseases.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund)¹ and the Resource Conservation and Recovery Act (RCRA)² provide the legal authority for most of EPA's work toward this goal. The Agency and its partners use Superfund authority to clean up uncontrolled or abandoned hazardous waste sites; return the land to productive use; and maximize the participation of potentially responsible parties in cleanup efforts. Under RCRA, EPA works in partnership with states and Tribes to address risks associated with leaking underground storage tanks and with the generation and management of hazardous and non-hazardous wastes.

EPA also uses authorities provided under the Clean Air Act,³ Clean Water Act,⁴ and Oil Pollution Act of 1990⁵ to protect against spills and releases of hazardous materials. Controlling the many risks posed by accidental and intentional releases of harmful substances presents a significant challenge to protecting the land. EPA's approach integrates prevention, preparedness, and response activities to minimize these risks. Spill prevention activities keep harmful substances from being released to the environment. Improving its readiness to respond to emergencies, through training, development of clear authorities, and provision of proper equipment, will ensure that EPA is adequately prepared to minimize contamination and harm to the environment when spills do occur.

In FY 2005, EPA will maintain its focus on three themes established in FY 2004, and one additional theme on emergency preparedness, response and homeland security, in achieving its objectives:

- **Recycling, Waste Minimization and Energy Recovery:** EPA's strategy for reducing waste generation and increasing recycling is based on (1) establishing and expanding partnerships with businesses, industries, states, communities, and consumers; (2) stimulating infrastructure development, environmentally responsible behavior by product manufacturers, users, and disposers ("product stewardship"), and new technologies; and (3) helping businesses, government, institutions, and consumers by education, outreach, training, and technical assistance.
- **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

¹ 42 U.S. Code 9601-9675

² 42 U.S. Code 6901-6992k

³ 42 U.S. Code 7401-7671q

⁴ 33 U.S. Code 1251-1387

⁵ 33 U.S. Code 2701-2761

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 information technologies that describe waste site cleanup and revitalization information in ways that keep the public and stakeholders fully informed. Finally, the Agency will develop environmental outcome performance measures that report progress among all cleanup programs, such as the number of acres able to be reused after site cleanup. A crucial element to this effort is a national dialogue, currently underway, on the future of Superfund and other EPA waste cleanup programs.

- **Revitalization:** The Agency's broad promotion of the successes of the Brownfields and other waste programs focuses on restoring and revising contaminated lands. The Land Revitalization Initiative complements the Agency's traditional cleanup programs by focusing on solutions that improve the quality of life and economy of affected communities. Front end planning for the final, productive use of contaminated lands enables the cleanup programs, communities and interested stakeholders to more easily and quickly make cleanup decisions. This integration of land reuse planning with the traditional cleanup processes will lead to faster, more efficient cleanups.
- **Emergency Preparedness, Response, and Homeland Security:** EPA has a major role in reducing the risk to human health and the environment posed by accidental or intentional releases of harmful substances and oil. EPA will work to improve its ability to effectively respond to these incidents, working closely with other federal agencies within the National Response System.

Reducing and Recycling Waste

The Resource Conservation Challenge (RCC) represents a major national effort to find flexible yet protective ways to conserve our valuable natural resources by reducing waste, recycling, and recovering energy.⁶ Through the RCC, EPA

challenges all Americans to make purchasing and disposal decisions that conserve natural resources, save energy, reduce costs, and preserve the environment for future generations.

Establishing and Expanding Partnerships:

EPA will establish and expand its partnerships with industry, states, and other entities to reduce waste and to develop and deliver tools that can help businesses, manufacturers, and consumers. Nationally-recognized programs, such as WasteWise,⁷ which uses partnerships to encourage waste prevention and recycling, will serve as models for new alliances among federal, state, and local governments and businesses that capitalize on voluntary efforts to reduce waste and increase recycling.

EPA will also continue to help its Tribal partners improve practices for managing solid waste on Indian lands. EPA has direct implementation responsibility for the RCRA hazardous waste and Underground Storage Tank programs in Indian country. Recognizing the unique challenges encountered in Indian country, EPA will work with Tribes on a government-to-government basis that affirms the federal government's vital trust responsibility and the importance of conserving natural resources for cultural uses. EPA will conduct joint projects to upgrade Tribal solid waste management infrastructure, developing plans, codes and ordinances, recycling programs, and other alternatives to open dumping. These efforts will help to prevent open dumping in Indian country in the future and allow clean up of existing dumps, reducing the risks that such dumps pose to human health and the environment.

Stimulating Infrastructure Development, Product Stewardship, and New Technologies:

Another key strategy for reducing waste is fostering development of infrastructure that will make it easier for businesses and consumers to reduce the waste they generate; acquire and use recycled materials; and purchase products containing recovered materials. For example, EPA has established voluntary product stewardship partnerships with manufacturers, retailers, governmental, and

⁶ U.S. Environmental Protection Agency, Office of Solid Waste. Resource Conservation Challenge Web Site:

<http://www.epa.gov/epaoswer/osw/conserve/index.htm>. Washington, D.C. Last updated August 21, 2003.

⁷ U.S. Environmental Protection Agency, Office of Solid Waste. WasteWise Program Web Site, About Waste Wise Page:

<http://www.epa.gov/wastewise/wrr/cbuild.htm>. Washington, D.C. Last updated September 27, 2002.

nongovernmental organizations to reduce the impacts that electronics and carpets can have on the environment throughout their lifecycles. EPA continues to promote the development of new and better recycling technologies and explore ways to obtain energy or products from waste.

Providing Education, Outreach, Training, and Technical Assistance: EPA works with major retailers, electronics manufacturers, and the amusement and motion picture industries to revitalize, create, and display conservation, waste prevention, and recycling messages. These activities encourage smarter, more environmentally responsible behavior by consumers, young people, and underserved communities. The Agency and its partners design activities that encourage students and teachers to start innovative recycling programs and develop unique tools and projects to promote waste reduction, recycling, and neighborhood revitalization in Hispanic and African-American communities and on Indian lands.

Managing Hazardous Wastes and Petroleum Products Properly

Recognizing that some hazardous wastes cannot yet be completely eliminated or recycled, the RCRA program works to reduce the risks of exposure to hazardous wastes by maintaining a “cradle-to-grave” approach to waste management.

Preventing Hazardous Releases from RCRA Facilities: EPA’s strategy for addressing hazardous wastes that must be treated or stored is to achieve greater efficiencies at waste management facilities through more focused permitting processes and tighter standards where appropriate. EPA works with state, Tribal, and local government partners to ensure that hazardous waste management facilities have approved controls in place and continues to strive for safe waste management.

EPA will work with the authorized states—specifically those with a large number of facilities lacking approved controls in place—to resolve issues and transfer best practices from other states. EPA also plans to study the universe of unpermitted facilities and work with states to identify and resolve issues that may be preventing key categories of facilities from obtaining permits or putting other approved controls in place. To achieve greater efficiencies at facilities that treat or store hazardous waste, the Agency will promote innovative technologies that streamline permitting processes and

improve protection of human health and the environment.

Reducing Emissions from Hazardous Waste Combustion: EPA continues to develop and issue regulations on emission standards for hazardous waste combustion facilities. Implementation of these regulations is key to reducing the emission of dioxins, furans, particulate matter, and acid gases. Within 2 years from the date when EPA issues new limits, facilities will conduct emission tests to demonstrate reductions. Additional periodic tests will ensure continued compliance with the limits established for emissions.

Preventing Releases from Underground Storage Tank Systems: EPA recognizes that the size and diversity of the regulated community put state authorities in the best position to regulate Underground Storage Tanks (USTs) and to set priorities. RCRA Subtitle I allows state UST programs approved by EPA to operate in lieu of the federal program.⁸ Except in Indian country, even states that have not received formal state program approval from EPA are in most cases the primary implementing agencies and receive annual grants from EPA.

While the frequency and severity of releases from UST systems have been greatly reduced, EPA and its state partners have observed that releases are still occurring. EPA will continue to work with its state and Tribal partners to prevent and detect petroleum releases from USTs by ensuring that compliance with detection prevention requirements (spill, overfill, and corrosion protection) are a national priority. While the vast majority of the approximately 683,000 active USTs have the regulatory equipment, significant work remains to ensure that UST owners and operators maintain and operate their systems properly.⁹ In FY 2005, the Agency will continue its performance evaluation of new or upgraded UST systems to better and more quickly identify releases and their causes. The Agency will also continue to identify opportunities for improving UST system performance.

To protect our Nation’s groundwater and drinking water from petroleum releases, EPA will

⁸ 42 U.S. Code 9601-6992k

⁹ Memorandum from Cliff Rothenstein, Director, EPA Office of Underground Storage Tanks to Underground Storage Tank Division Directors in EPA Regions 1-10. June 19, 2003. F[^] 2003 Semi Annual (Mid-Year) Activity Report

continue to support state programs; strengthen partnerships among stakeholders; and provide technical and compliance assistance, and training to promote and enforce UST facilities' compliance. In addition, EPA will continue its work to obtain states' commitments to increase their inspection and enforcement presence if state-specific goals are not met. The Agency and states will use innovative compliance approaches, along with outreach and education tools, to bring more tanks into compliance.

The Agency will also provide guidance to foster the use of new technology to enhance compliance. For example, the presence of methyl-tertiary-butyl-ether (MTBE) in gasoline increases the importance of preventing and rapidly detecting releases, since MTBE cleanups can cost 100 percent more than cleanups involving other gasoline contaminants.¹⁰ The Agency will focus its efforts on reducing UST releases and increasing early detection of petroleum products, including MTBE, by further evaluating the performance of compliant UST systems.

Preparing for and Responding to Emergencies

EPA plays a major role in reducing the risks that accidental and intentional releases of harmful substances and oil pose to human health and the environment. Under the National Response System (NRS), EPA evaluates and responds to thousands of releases annually. The NRS is a multi-agency preparedness and response mechanism that includes the following key components: the National Response Center, the National Response Team (NRT) which is composed of 16 Federal agencies, 13 Regional Response Teams, and Federal On-Scene Coordinators (OSCs). These organizations work with state and local officials to develop and maintain contingency plans that will enable the Nation to respond effectively to hazardous substance and oil emergencies. When an incident occurs, these groups coordinate with the OSC in charge to ensure that all necessary resources, such as personnel and equipment, are available and that containment, cleanup, and disposal activities proceed quickly, efficiently, and effectively. EPA's primary role in the NRS is to serve as the Federal OSC for spills and releases in the inland zone. As a result of NRS efforts, the Nation has successfully contained many

major oil spills and releases of hazardous substances, minimizing the adverse impacts on human health and the environment.

Preparing for Emergencies: Preparedness on a national level is essential to ensure that emergency responders are able to deal with multiple, large-scale emergencies, including those that may involve chemicals, oil, biological agents, or radiological incidents. Over the next several years, EPA will enhance its core emergency response program to respond quickly and effectively to chemical, oil, biological, and radiological releases. EPA also will improve coordination mechanisms to respond to simultaneous, large-scale national emergencies, including homeland security incidents. The Agency will focus its efforts on Regional Response Teams and coordination among Regions; health and safety issues, including provision of clothing that protects and identifies responders, training, and exercise; establishment of delegation and warrant authorities; and response readiness, including equipment, transportation, and outreach. The criteria for excellence in the core emergency response program will ensure a high level of overall readiness throughout the Agency and improve its ability to support multi-Regional responses.

In addition to enhancing its readiness capabilities, EPA will work to improve internal and external coordination and communication mechanisms. For example, as part of the National Incident Coordination Team, EPA will continue to improve its policies, plans, procedures, and decision-making processes for coordinating responses to national emergencies. Under the Continuity of Operations/Continuity of Government program, EPA will upgrade and test plans, facilities, training, and equipment to ensure that essential government business can continue during a catastrophic emergency. NRT capabilities are being expanded to coordinate interagency activities during large-scale responses. EPA will coordinate its activities with the Department of Homeland Security, Federal Emergency Management Administration (FEMA), Federal Bureau of Investigation (FBI), other Federal agencies, and state and local governments. EPA will also continue to clarify its roles and responsibilities so that Agency security programs are consistent with the national homeland security strategy.

Responding to Hazardous Substance Releases and Oil Spills: Each year, EPA personnel assess, respond to, mitigate, and clean up thousands of releases, whether accidental, deliberate, or naturally occurring. These incidents range from

¹⁰ New England Interstate Water Pollution Control Commission. 2000. A Survey of Site Experiences with MTBE Contamination at LUST Sites. Web Site: <http://epa.gov/superfund/sites/npl/current>.

small spills at chemical or oil facilities to national disasters, such as hurricanes and earthquakes, to terrorist events like the 2001 World Trade Center and anthrax attacks, to the 2003 Columbia shuttle tragedy.

EPA will work to improve its capability to respond effectively to incidents that may involve harmful chemical, oil, biological, and radiological substances. The Agency will explore improvements in field and personal protection equipment and response training and exercises; review response data provided in the “after-action” reports prepared by EPA emergency responders following a release; and examine “lessons learned” reports to identify which activities work and which need to be improved. Application of this information and other data will advance the Agency’s state-of-the-art emergency response operations.

Preventing Oil Spills: An important component of EPA’s land strategy is to prevent oil spills from reaching the Nation’s waters. Under the Oil Pollution Act,¹¹ the Agency requires certain facilities (defined in 40 CFR 112.2) to develop and implement spill prevention, control, and countermeasure (SPCC) plans. SPCC plans ensure that facilities put in place containment and other countermeasures to prevent oil spills from reaching navigable waters. Facilities that are unable to provide secondary containment, such as berms around an oil storage tank, must provide a spill contingency plan that details cleanup measures to be taken if a spill occurs. Compliance with these requirements reduces the number of oil spills that reach navigable waters and prevents detrimental effects on human health and the environment should a spill occur.

Controlling Risks to Human Health and the Environment at Contaminated Sites

Leaching contaminants can foul drinking water in underground aquifers used for wells or surface waters used by public water intakes. Contaminated soil can result in human ingestion or dermal absorption of harmful substances. Contamination can also affect subsistence resources, including resources subject to special protections through treaties between Federal and Tribal governments. Furthermore, because of the risks it poses, contaminated land may not be available for use.

EPA and its partners work to clean up contaminated land to levels sufficient to control risks to human health and the environment and to return the land to productive use. The Agency’s cleanup activities, some new and some well-established, include removing contaminated soil, capping or containing contamination in place, pumping and treating groundwater, and bioremediation.

EPA uses a variety of tools to accomplish cleanups: permits, enforcement actions, consent agreements, Federal Facility Agreements, and many other mechanisms. As part of EPA’s One Cleanup Program Initiative, all levels of government will work together to ensure that appropriate cleanup tools are used; that resources, activities, and results are coordinated with partners and stakeholders and communicated to the public effectively; and that cleanups are protective and contribute to community revitalization. This approach reflects EPA’s efforts to coordinate across all of its cleanup programs, while maintaining the flexibility needed to accommodate differences in program authorities and approaches.

EPA fulfills its cleanup and waste management responsibilities on Tribal lands by acknowledging Tribal sovereignty and recognizing Tribal governments as being the most appropriate authorities for setting standards, making policy decisions, and managing programs consistent with Agency standards and regulations.

Through strong policy, leadership, program administration, and a dedicated workforce, EPA’s cleanup programs will merge sound science, cutting-edge technology, quality environmental information, and stakeholder involvement to protect the Nation from the harmful effects of contaminated property. To accomplish its cleanup goals, the Agency continues to forge partnerships and develop outreach and education strategies.

EPA and its partners follow four key steps to accomplish cleanups and control risks to human health and the environment: assessment, stabilization, selection of appropriate remedies, and implementation of remedies. The Agency will continue to work with Federal, state, Tribal, and local government partners at each step of the process to identify facilities and sites requiring attention and to monitor changes in priorities. For example, EPA is collecting Tribal program baseline data for the Superfund program and will modify the Superfund data system to more accurately track sites of concern to Tribes, along with those situated on Indian lands.

¹¹ 33 U.S. Code, 6901-6992k

As systems and approaches change, cleanup programs will revise guidance appropriately.

Usable land is a valuable resource. However, where contamination presents a real or perceived threat to human health and the environment, options for future land use at that site may be limited. EPA's cleanup programs have set a national goal of returning formerly contaminated sites to long-term, sustainable, and productive use. This goal creates greater impetus for selecting and implementing remedies that, in addition to providing clear environmental benefits, will support future land use providing greater economic and social benefits.

Maximizing Potentially Responsible Party Participation at Superfund Sites:

Enforcement authorities play a critical role in all Agency cleanup programs. However, they have an additional and unique role under the Superfund program: they are used to leverage private-party resources to conduct a majority of the cleanup actions and to reimburse the federal government for cleanups financed by the Trust Fund. EPA will continue to pursue the following two strategies for limiting the use of trust funds.

Applying Superfund "Enforcement First": Historically, EPA has achieved at least \$6 in private-party cleanup commitments for every \$1 spent on enforcement. The Agency will continue to use its enforcement authorities to achieve this end. The Superfund program's "Enforcement First" strategy will allow EPA to focus limited Trust Fund resources on sites where viable, potentially responsible parties either do not exist or lack the funds or capabilities to conduct the cleanup. By taking enforcement actions at sites where viable, liable parties do exist, EPA will continue to leverage private-party dollars so that Trust Fund money is used only when absolutely necessary to clean up hazardous waste sites.

Recovering Costs: Cost recovery is another way to leverage private-party resources through enforcement. Under Superfund, EPA has the authority to compel private parties to pay back Trust Fund money spent to conduct cleanup activities. EPA will continue its efforts to address 100 percent of the Statute of Limitations cases for Superfund sites with unaddressed total past costs equal to or greater than \$200,000 and to report the value of costs recovered.

Research

The FY 2005 land 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 the Comprehensive Environmental Response, Compensation, and Liabilities Act (CERCLA).

The Agency will conduct research to: 1) improve the range and scientific foundation for contaminated sediment remedy selection options through improved site characterization, and increased understanding of different remedial options; 2) determine the performance and cost benefit of alternative groundwater remediation technologies and provide tools for characterizing and assessing groundwater contamination to program offices for use in state and local remedial decisions; 3) provide tools and methods that will allow the Agency to accurately and efficiently assess, remediate, and manage soil and land contamination; and 4) provide tools, methods, and models, and technical support to characterize the extent of multimedia site contamination.

Multimedia decision-making, waste management, and combustion constitute the three major areas of research under the Resource Conservation and Recovery Act (RCRA) in FY 2005, as the Agency works toward preventing releases through proper facility management. Multimedia research will focus on resource conservation (e.g., electronic waste recycling and waste-derived products), corrective action, and multimedia modeling. Waste management research will develop 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 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. 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 AND FY 2005 ANNUAL PERFORMANCE GOALS

Preserve Land. By 2008, reduce adverse effects to land by reducing waste generation, increasing recycling, and ensuring proper management of waste and petroleum products at facilities in ways that prevent releases.

Restore Land. By 2008, control the risks to human health and the environment by mitigating the impact of accidental or intentional releases and by cleaning up and restoring contaminated sites or properties to appropriate levels.

Enhance Science and Research. Through 2008, provide and apply sound science for protecting and restoring land by conducting leading-edge research and developing a better understanding and characterization of environmental outcomes under Goal 3.

HIGHLIGHTS

In FY 2005, EPA and its partners will preserve and restore the land by reducing, recycling, and managing wastes, preventing and responding to releases of harmful substances, and cleaning up contaminated land. The following accomplishments are examples of what has been done by the Agency to achieve these purposes:

- completed 303,120 cleanups of confirmed releases from Federally-regulated LUSTs since 1987;
- conducted over 7,900 removal response actions from 1982 through January 6, 2004;

- completed clean up construction at 890 Superfund National Priorities List Sites through January 6, 2004;
- assessed over 45,300 potential Superfund sites through January 6, 2004;
- removed more than 33,400 sites from the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) waste site list;
- responded to or monitored 300 oil spills in a typical year;
- 699 construction projects are ongoing at over 430 sites;
- expanded the Waste Wise Partnership to more than 1,300 partners who recycled over 9 million tons of waste, and prevented over 400,000 tons of waste;
- enrolled 50 Coal Combustion Products Partners, who are investigating ways to increase the use of coal combustion products (CCPs) in construction and to promote other beneficial uses of CCPs;
- determined that an investment of \$1 million in Jobs Through Recycling grants helped businesses create more than 1,700 jobs and \$290 million in capital investment;
- provided over \$6.0 million to thirty-one Tribes to clean up open dumps and \$3.1 million to 47 Tribes to develop hazardous waste management programs through the Tribal Solid Waste Interagency Workgroup;
- developed e-permitting tools to expedite and simplify the permitting process and provide better public access to permitting information;
- financial assurance regulations reduced the number of sites that must be cleaned up under either state or Federal authorities (such as Superfund removals) by requiring facilities to have financial assurance for third party liability, closure, and completion of corrective action;

- 83 percent of hazardous waste facilities have approved controls (permits) in place, exceeding the 2005 goal of 80 percent;
- the “worst facilities first” strategy resulted in over 1,200 facilities achieving the Current Human Exposures Under Control environmental indicator goal and over 1,000 facilities achieving the Migration of Contaminated Groundwater Under Control environmental indicator goal;
- secured greater than \$20 billion in PRP commitments, through response and cost recovery settlements, over the life of the Superfund program; and
- resolved potential liability of 24,700 small volume waste contributing parties through more than 475 de minimis settlements.

In FY 2005, contaminated sites research will: 1) reduce uncertainties associated with soil/groundwater sampling and analysis; 2) reduce the time and cost associated with site characterization and site remediation activities; and 3) develop and demonstrate more effective and less costly remediation technologies involving complex sites and hard-to-treat wastes. 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. The Superfund Innovative Technology Evaluation (SITE) program fosters the development and use of lower cost and more effective characterization and monitoring technologies, as well as risk management remediation technologies for sediments, soils, and groundwater. In FY 2005, EPA will complete at least four SITE demonstrations, with emphasis on non-aqueous phase liquids (NAPLs) and sediments.

Waste management research in FY 2005 will work to advance the multimedia modeling and uncertainty/sensitivity analyses methodologies that support core RCRA program needs as well as emerging RCRA resource conservation needs. Waste management research will also be conducted to improve the management of both solid and hazardous wastes.

EXTERNAL FACTORS

EPA’s ability to respond as the Federal On-Scene Coordinator for releases of harmful substances in the inland zone will be affected by several external factors. The National Response System ensures that EPA will respond when necessary, but relies heavily on the ability of responsible parties and state, local, and Tribal agencies to respond to most emergencies. The need for EPA to respond is a function of the quantity and severity of spills that occur, as well as the capacity of state, local, and Tribal agencies to address spills.

EPA’s ability to respond to homeland security incidents may be affected by circumstances surrounding each event. For instance, if travel or communication is severely impeded, EPA’s response may be delayed and its efficiency compromised. Also, in the case of a single large-scale incident, removal program resources will most likely be concentrated on that response, thus reducing EPA’s ability to address other emergency releases. In severe cases, EPA’s current emergency response workforce and resources may not be sufficient to address a large number of simultaneous large-scale incidents.

A number of external factors could also affect the Agency’s ability to achieve its objectives for cleanup and prevention. These factors include Agency reliance on private-party response and state and Tribal partnerships, development of new environmental technologies, work by other Federal agencies, and statutory barriers. Achieving the release prevention objectives and attaining FY 2005 targets will depend heavily on the participation of states that have been authorized or approved to be the primary implementors of these programs.

Attaining EPA’s waste reduction and recycling objectives will depend on the participation of Federal agencies, states, Tribes, local governments, industries, and the general public in partnerships aimed at reducing waste generation and increasing recycling rates. EPA provides national leadership in the areas of waste reduction and recycling to facilitate public and private partnerships that can provide the impetus for government, businesses, and citizens to join in the campaign to significantly reduce the amount of waste generated and ultimately sent for disposal. Further, both domestic and foreign economic stresses can adversely affect markets for recovered materials.

State programs are primarily responsible for implementing the RCRA Hazardous Waste and UST

programs. EPA's ability to achieve its goals for these programs depends on the strength of state programs, including the level of funding contributed by states to these programs.

The Agency's ability to achieve its goals for Superfund construction completion is partially dependent upon the performance of cleanup activities by the Department of Defense (DOD) and the Department of Energy (DOE). In addition to construction completion, the Agency must rely on the efforts of DOD and DOE to establish and maintain Restoration Advisory Boards (RABs) and Site Specific Advisory Boards (SSABs). RABs and SSABs provide a forum for stakeholders to offer advice and recommendations on the restoration of Federal Facilities. Program success also partly depends on private party response and State partnerships, development of new environmental technology, work by other federal agencies, and statutory barriers. Further, EPA also coordinates its activities with other entities, such as PRP negotiations and agreements with states and Tribes.

Resource Summary
(Dollars in thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Land Preservation and Restoration	\$1,706,796.3	\$1,779,473.5	\$1,798,171.0	\$18,697.5
Preserve Land	\$205,443.3	\$210,990.1	\$237,149.8	\$26,159.7
Restore Land	\$1,454,821.4	\$1,508,646.8	\$1,503,465.6	(\$5,181.3)
Enhance Science and Research	\$46,531.6	\$59,836.6	\$57,555.6	(\$2,280.9)
Total Workyears	4,675.2	4,744.8	4,708.5	-36.4

OBJECTIVE: Preserve Land

By 2008, reduce adverse effects to land by reducing waste generation, increasing recycling, and ensuring proper management of waste and petroleum products at facilities in ways that prevent releases.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Preserve Land	\$205,443.3	\$210,990.1	\$237,149.8	\$26,159.7
Environmental Program & Management	\$115,732.5	\$121,103.9	\$121,177.4	\$73.5
Science & Technology	\$950.0	\$0.0	\$0.0	\$0.0
Building and Facilities	\$1,398.3	\$1,478.0	\$1,571.1	\$93.1
State and Tribal Assistance Grants	\$85,944.2	\$86,436.9	\$112,236.9	\$25,800.0
Leaking Underground Storage Tanks	\$466.5	\$809.4	\$807.8	(\$1.6)
Inspector General	\$951.6	\$1,161.9	\$1,356.6	\$194.7
Total Workyears	717.7	740.9	725.4	-15.5

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Categorical Grant: Tribal General Assistance Program	\$364.9	\$0.0	\$0.0	\$0.0
Congressionally Mandated Projects	\$2,252.2	\$0.0	\$0.0	\$0.0
Categorical Grant: Hazardous Waste Financial Assistance	\$73,923.5	\$74,486.9	\$74,286.9	(\$200.0)
Categorical Grant: Underground Storage Tanks	\$11,655.8	\$11,950.0	\$37,950.0	\$26,000.0
Compliance Assistance and Centers	\$401.9	\$586.5	\$585.3	(\$1.2)
LUST / UST	\$6,765.8	\$7,144.2	\$7,094.5	(\$49.7)
RCRA: Waste Management	\$59,706.6	\$67,381.6	\$67,422.3	\$40.7
RCRA: Waste Minimization & Recycling	\$12,107.4	\$8,637.4	\$10,107.9	\$1,470.5
Administrative Projects	\$38,265.2	\$40,803.5	\$39,702.9	(\$1,100.6)
TOTAL	\$205,443.3	\$210,990.1	\$237,149.8	\$26,159.7

ANNUAL PERFORMANCE GOALS AND MEASURES**GOAL: LAND PRESERVATION AND RESTORATION****OBJECTIVE: PRESERVE LAND****Municipal Solid Waste Source Reduction**

- In 2005 Divert an additional 1% (for a cumulative total of 35% or 81 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 2004 Divert an additional 1% (for a cumulative total of 34% 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 End of year FY 2003 data will be available in December 2005 to verify that 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 was diverted.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Millions of tons of municipal solid waste diverted.	Data available in December 2005	79	81	million tons
Daily per capita generation of municipal solid waste.	Data available in December 2005	4.5	4.5	lbs. MSW

Baseline: An analysis conducted in FY 2001 shows approximately 68 million tons (29.2%) of municipal solid waste diverted and 4.4 lbs of MSW per person daily generation. While data indicate that the growth in recycling rates has slowed, the target of a 35% recycling rate is being maintained.

Waste and Petroleum Management Controls

- In 2005 Reduce releases to the environment by managing hazardous wastes and petroleum products properly.
- In 2004 Reduce releases to the environment by managing hazardous wastes and petroleum products properly.
- In 2003 For UST facilities, 72% are in operational compliance with leak detection, and 79% are in operational compliance with spill prevention requirements. An additional 4.1% of the RCRA facilities have permits or approved controls.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Percent increase of RCRA hazardous waste management facilities with permits or other approved controls.	4.1%	2.4%	2.8%	percentage pts.
Number of confirmed UST releases nationally.		<10,000	<10,000	UST releases
Increase in UST facilities in significant operational compliance with leak detection requirements.	-8%	4%	Not applicable	percentage pts.
Increase in UST facilities in significant operational compliance with spill, overfill and corrosion protection regulations.	-6%	4%	Not applicable	percentage pts.
Percent increase of UST facilities in significant operational compliance with both detection and release prevention (spill overflow, corrosion protection) requirements.			1%	percent

Baseline: EPA did not increase by 3% to 80% for the leak detection requirements or with spill, overfill and corrosion protection requirements by 3% to 85% in FY 2003. The FY 2003 actuals were 72% for UST facilities in significant operational compliance with leak detection requirements; 79% for UST facilities in significant operational compliance with spill, overfill and corrosion protection. Although the Agency has been working with the states to improve their reporting of both measures, the compliance rates for both have been steady or declining. There is some variability in reporting by states because some states have more stringent requirements, while other states have targeted non-compliant UST facilities so the facilities that are inspected are not representative of all facilities in the state. A baseline for the new combined measure will be determined in FY 2004, and is currently estimated to be approximately 60%. Between FY 1999 and FY 2003, confirmed UST releases averaged 13,600. By the end of FY 2003, 83.1% of approximately 2,750 RCRA facilities had permits or other approved controls in place.

VERIFICATION AND VALIDATION OF PERFORMANCE

FY 2005 Performance Measure:

- **Daily per capita generation**
- **Millions of tons 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. U.S. 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 material-by-material and product-by-product estimates of MSW generation, recovery, and discards.

There are various assumptions factored into the analysis to develop estimates of MSW generation, recovery and discards. Example assumptions (from pages 141-142 of year 2000 "Characterization Report" include: Textiles used as rags are assumed to enter the waste stream the same year the textiles are discarded. Some products (e.g., newspapers and packaging) normally have short lifetime; products are assumed to be discarded in the year they are produced.

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.

Data Limitations: 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 2005 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's Regional offices 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 EPA's Regional offices 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 (at <http://www.epa.gov/rcrainfo/>) 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. The data that support the performance for the GPRA goals is of far better quality than the handler data in general (including generators). Determination of whether or not the GPRA annual goals are met is based on the legal and operating status codes for each unit (e.g., a facility can have more than one unit). In 1999 and 2000 there was a focused effort to update this information for the baseline facilities in RCRAInfo. RCRAInfo is the sole repository for this information and is a focal point in planning from the local to national level.

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.

Data Quality Review: The Government Accounting Office's (GAO's) 1995 Report on EPA's Hazardous Waste Information System <http://frebgate.access.gpo.gov/cgibin/> (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. The states have ownership of their data and EPA has to rely on them to make changes. The data that determine if a facility has met its permit requirements are prioritized in update efforts. Basic site identification data may become out-of-date because RCRA does not mandate annual or other periodic notification by the regulated entity when site name, ownership and contact information changes. Nevertheless, EPA tracks the facilities by their IDs and those should not change even during ownership 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>

FY2005 Performance Measure:

- **Percentage of UST facilities that are in significant operational compliance with both release detection and release prevention (spill, overfill, and corrosion protection) requirements.**
- **Number of confirmed releases at UST facilities nationally**

Performance Database: The Office of Underground Storage Tanks (OUST) does not maintain a national database; the states maintain their respective databases and/or spreadsheets.

FY 2004 will be the first year of establishing the baseline for the new combined measure, the percentage of UST facilities that are in significant operational compliance with both release detection and release prevention (spill, overfill, and corrosion protection), which will be reported in the FY2005 Annual Report. EPA has previously reported progress in meeting each of these requirements separately. The new combined measure cannot be recalculated using the previous separate measures because there hasn't been a baseline prior to FY 2004. As there is no database for this information, a requirement to recalculate the baseline would be overly burdensome to the states.

Data Source: Designated state agencies submit semi-annual progress reports to the EPA's Regional offices.

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: States submit their performance on an EPA-supplied form for review against national trends and historical data. Previously reported percentages and/or totals are compared to current values and states are notified of any discrepancies and/or anomalies.

Data Quality Review: EPA resolves any discrepancies and/or anomalies in the reported information through written explanations and/or justifications from the states and discussions.

Data Limitations: Percentages reported are sometimes based on estimates and extrapolations from sample data. The quality of the states' data depends on the completeness and accuracy of states' internal recordkeeping.

Error Estimate: Not calculated.

New/Improved Data or Systems: None.

References: FY 2003 Mid-Year Activity Report, June 19, 2003 (updated semi-annually)

STATUTORY AUTHORITIES

Department of Veterans Affairs and Housing and Urban Development and Independent Agencies Appropriation Act, Public Law 105-275; 112 Stat. 2461, 2499 (1998)

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

Resource Conservation and Recovery Act (RCRA) of 1976, as amended; (42 U.S.C. 6901-6992k) Public Law 94-580, 42 U.S.C. 6901 et seq.

Solid Waste Disposal Act (SWDA) of 1976, as amended by the Hazardous Waste Amendments of 1984, (Subtitle I); Section 8001(a); Tribal Grants: PL 105-276

OBJECTIVE: Restore Land

By 2008, control the risks to human health and the environment by mitigating the impact of accidental or intentional releases and by cleaning up and restoring contaminated sites or properties to appropriate levels.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Restore Land	\$1,454,821.4	\$1,508,646.8	\$1,503,465.6	(\$5,181.3)
Environmental Program & Management	\$77,013.7	\$78,811.3	\$77,204.5	(\$1,606.8)
Building and Facilities	\$2,308.5	\$4,179.5	\$2,594.2	(\$1,585.3)
State and Tribal Assistance Grants	\$33,997.8	\$31,913.1	\$32,113.1	\$200.00
Leaking Underground Storage Tanks	\$70,263.9	\$71,005.4	\$71,000.5	(\$4.9)
Oil Spill Response	\$14,701.7	\$15,289.4	\$15,500.6	\$211.2
Inspector General	\$879.3	\$1,069.1	\$1,082.2	\$13.1
Hazardous Substance Superfund	\$1,255,656.6	\$1,306,379.0	\$1,303,970.4	(\$2,408.6)
Total Workyears	3,772.7	3,822.6	3,796.7	-25.9

Program Project
(Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Congressionally Mandated Projects	\$3,509.4	\$0.0	\$0.0	\$0.0
Categorical Grant: Hazardous Waste Financial Assistance	\$31,017.3	\$31,913.1	\$32,113.1	\$200.0
Compliance Assistance and Centers	\$198.6	\$279.9	\$276.6	(\$3.3)
LUST / UST	\$12,650.6	\$10,581.0	\$10,499.6	(\$81.4)
Civil Enforcement	\$1,969.7	\$2,163.6	\$2,135.6	(\$28.0)
Homeland Security: Preparedness, Response, and Recovery	\$37,556.3	\$27,339.3	\$27,163.2	(\$176.1)
LUST Cooperative Agreements	\$55,798.7	\$58,399.1	\$58,450.0	\$50.9
Oil Spill: Prevention, Preparedness and Response	\$12,543.8	\$12,897.5	\$13,064.7	\$167.2
RCRA: Corrective Action	\$36,816.6	\$40,363.8	\$40,975.6	\$611.8
Superfund: Emergency Response and Removal	\$217,880.1	\$199,803.9	\$201,088.0	\$1,284.1
Superfund: Enforcement	\$158,487.3	\$155,307.5	\$155,537.2	\$229.7
Superfund: EPA Emergency Preparedness	\$17,926.8	\$10,130.1	\$10,091.4	(\$38.7)
Superfund: Federal Facilities	\$28,838.1	\$32,744.2	\$32,182.0	(\$562.2)
Superfund: Federal Facilities IAGs	\$6,749.0	\$10,022.6	\$10,044.4	\$21.8
Superfund: Remedial	\$656,387.4	\$725,751.1	\$719,249.8	(\$6,501.3)
Superfund: Support to Other Federal Agencies	\$10,178.8	\$10,676.0	\$10,676.0	\$0.0
Administrative Projects	\$166,319.4	\$180,274.1	\$179,918.4	(\$355.8)
TOTAL	\$1,454,827.9	\$1,508,646.8	\$1,503,465.6	(\$5,181.3)

ANNUAL PERFORMANCE GOALS AND MEASURES**Prepare for and Respond to Accidental and Intentional Releases**

- In 2005 Reduce and control the risks posed by accidental and intentional releases of harmful substances by improving our Nation's capability to prepare for and respond more effectively to these emergencies.
- In 2004 Reduce and control the risks posed by accidental and intentional releases of harmful substances by improving our Nation's capability to prepare for and respond more effectively to these emergencies.
- In 2003 EPA responded to or monitored 322 significant oil spills in the inland zone and Superfund accomplished 380 removal response actions.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Number of Superfund removal response actions initiated.	380	350	350	removals
Oil spills responded to or monitored by EPA.	322	300	300	spills
Number of inspections and exercises conducted at oil storage facilities that are required to have Facility Response Plans.			360	inspections/ exercises
Percentage of emergency response and homeland security readiness improvement.	82.3%	10%	10%	percent

Baseline: Through FY2003, Superfund had initiated approximately 7,900 removal response actions. EPA typically responds to or monitors 300 oil spill cleanups per year. In FY2003, EPA completed evaluations of core emergency response capabilities in each region, and the average score from these was 823 out of a possible 1,000 points so 82.3 percent is used as the baseline for improvements. Between FY 1997 and FY 2003, approximately 31 percent (or 1,862) of the nearly 6,000 oil storage facilities required to have Facility Response Plans were inspected.

Assess and Cleanup Contaminated Land

- In 2005 Control the risks to human health and the environment at contaminated properties or sites through cleanup, stabilization, or other action, and make land available for reuse.
- In 2004 Control the risks to human health and the environment at contaminated properties or sites through cleanup, stabilization, or other action, and make land available for reuse.
- In 2003 Superfund made 917 final site assessment decisions, controlled human exposures at 28 sites and groundwater migration at 54 sites, and achieved 40 construction completions. The RCRA program controlled human exposures at 230 sites and groundwater migration at 175 sites. There were 18,518 LUST cleanups.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Number of Superfund final site assessment decisions.	917	475	500	assessments
Number of Superfund construction completions.	40	40	40	completions
Number of Superfund hazardous waste sites with human exposures controlled.	28	10	10	sites
Number of Superfund hazardous waste sites with groundwater migration controlled.	54	10	10	sites
Number of final remedies (cleanup targets) selected at Superfund sites.		20	20	remedies
Number of leaking underground storage tank cleanups completed.	18,518	21,000	21,000	cleanups
Number of high priority RCRA facilities with human exposures to toxins controlled.	230	166	225	facilities
Number of high priority RCRA facilities with toxic releases to groundwater controlled.	175	129	203	facilities

Baseline: By the end of FY 2003, Superfund had initiated approximately 7,900 removal response actions, controlled human exposures at 82% (1,227 of 1,494) of eligible NPL sites and controlled groundwater migration at 65% (826 of 1,275) of eligible NPL sites, and completed construction at 58% (886) of the NPL sites. Of the 1,714 RCRA Corrective Action high priority facilities, 73% (1,246) have human exposures controlled, an increase from 1,018 facilities with human exposures controlled at the end of FY 2002; and 61% (1,049) have groundwater migration controlled, an increase from 877 facilities with groundwater migration controlled at the end of FY 2002. Furthermore, at the end of FY 2001 there were 814 facilities with human exposures controlled and 737 facilities groundwater migration controlled reflecting the strong EPA/state partnership in this program. At the end of FY 2003, 303,120 cleanups of confirmed releases from Federally-regulated leaking underground storage tanks were completed since 1987. At the end of FY 2002, there was a universe of 1,103 Superfund sites with final remedies selected. The Agency is currently evaluating this baseline and may adjust it downward in the future.

Superfund Cost Recovery

In 2005	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 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	Ensured trust fund stewardship by getting PRPs to initiate or fund the work and recover costs from PRPs when EPA expends trust fund monies. Addressed 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.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
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	Percent

Baseline: In FY 98 the Agency addressed 100 percent 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 2005 Reach a settlement or take an enforcement action before the start of a remedial action at 90 percent of Superfund sites having a viable, liable responsible party other than the federal government.
- In 2004 Reach a settlement or take an enforcement action before the start of a remedial action at 90 percent of Superfund sites having a viable, liable responsible party other than the federal government.
- In 2003 Maximized all aspects of PRP participation which included maintaining PRP work at 87% of the new remedial construction starts at non-Federal Facility Superfund, and emphasized fairness in the settlement process.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
PRPs conduct 70% of the work at new construction starts	87			Percent
Percentage of Superfund sites at which settlement or enforcement action taken before the start of RA.		90	90	Percent

Baseline: In FY 98 approximately 70% of new remedial work at NPL sites (excluding Federal facilities) was initiated by private parties. In FY2003, a settlement was reached or an enforcement action was taken with non-Federal PRPs before the start of the remedial action at approximately 90 percent of Superfund sites.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Performance Measures:

- Number of final Superfund 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 final remedies (cleanup targets) selected at Superfund sites.
- Number of Superfund construction completions.
- Number of Superfund removal response actions initiated.

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: CERCLIS is an automated EPA system; headquarters and EPA's 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 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 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.

CERCLIS 3/WasteLAN operation and further development is taking place under the following administrative control quality assurance procedures: 1) OIRM Life Cycle Guidance; 2) OSRTI Quality Management Plan; 3) Agency platform, software and hardware standards (NTSD); 4) Quality Assurance Requirements in all contract vehicles under which CERCLIS 3/WasteLAN is being developed and maintained; and 5) Agency security procedures. In addition, specific controls are in place for system design, data conversion and data capture, and CERCLIS 3/WasteLAN outputs.

Data Quality Reviews: Two audits, one by the Office Inspector General (OIG) and the other by General 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/erom.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 percent of the sites. Additional information on the *Status of Sites* may be obtained by visiting <http://www.gao.gov>. Another 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, and 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/erom.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: Weaknesses 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 was made to better define the Headquarters and Regional roles and responsibilities for maintaining planning and accomplishment data in CERCLIS; 2) draft guidance from OCA (Other Cleanup Activity) subgroup, which outlines the conditions under which sites are taken back from states when states have the lead but are not performing and 3) Pre-CERCLIS Screening: A Data Entry Guide, which provides guidance to the regions for preventing entry of duplicate sites in CERCLIS. The development and implementation of a quality assurance process for CERCLIS data has begun. This process includes delineating quality assurance responsibilities in the program office and periodically selecting random samples of CERCLIS data points to check against 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 percent of the sites.

New/Improved Data or Systems: 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. Among other initiatives, this effort includes reviewing current and anticipated data needs. Items in CERCLIS that are no longer needed will be deleted, and new items identified will be added. Strict standards for quality will be enforced. During FY 2004, the CERCLIS database will be made Intranet accessible, and perhaps, Internet accessible, using CITRIX. This will make it easier to access the database and will simplify the SNAPSHOT process. This change will improve database reliability since there will no longer be 10 separate CERCLIS installations on servers maintained by regional IRM shops. 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. In 2005, the Agency will continue its efforts begun in 1999 to improve the Superfund program's technical information by increasing reliance upon CERCLIS support data systems, which incorporate more site remedy selection, risk, removal response, and community involvement information. 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 formulate 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.

References: References include OIG audit reports, *Superfund Construction Completion Reporting*, (No. E1SGF7_05_0102_ 8100030) and *Information Technology - Comprehensive FY 2005 Performance Measures Environmental Response, Compensation, and Liability Information System (CERCLIS) Data Quality*, (No. 2002-P-00016), <http://www.epa.gov/oigearth/eroom.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, the Annual Performance Report to Congress, and the Office of Superfund Remediation and Technology Innovation's Information Management Center's Quality Assurance Procedures for the Official Superfund Data Base, CERCLIS 3/WasteLAN.

FY 2005 Performance Measures

• Number of leaking underground storage tank cleanups completed.

Performance Database: The Office of Underground Storage Tanks (OUST) does not maintain a national database; the states maintain their respective databases and/or spreadsheets.

Data Source: Designated state agencies submit semi-annual progress reports to the EPA's Regional offices.

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: States submit their performance on an EPA-supplied form for review against national trends and historical data. Previously reported percentages and/or totals are compared to current values and states are notified of any discrepancies and/or anomalies.

Data Quality Review: EPA resolves any discrepancies and/or anomalies in the reported information through written explanations and/or justifications from the states and discussions.

Data Limitations: Percentages reported are sometimes based on estimates and extrapolations from sample data. The quality of the states' data depends on the completeness and accuracy of states' internal recordkeeping.

Error Estimate: Not calculated.

New/Improved Data or Systems: None.

References: FY 2003 Mid-Year Activity Report, June 19, 2003 (updated semi-annually)

FY 2005 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 are 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's Regional offices 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.

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 2005 Performance Measure:

- **Percentage of emergency response and homeland security readiness improvement.**

Performance Database: No specific database has been developed. Data from evaluations are tabulated and stored using standard software (WordPerfect, spreadsheets, etc.)

Data Source: Data are collected through detailed surveys and interviews of personnel and managers in each program office. The survey instrument was developed based upon Core Emergency Response (ER) elements, and has been approved by EPA Headquarters and Regional managers.

Methods, Assumptions and Suitability: The Core ER elements were developed over the last several years by the EPA Removal Program to identify and clarify what is needed to ensure an excellent emergency response program. The elements, definitions, and rationales were developed by staff and managers and have been presented to the Administrator and other high level Agency managers. Based on the Core ER standards, evaluation forms and criteria were established for EPA's Regional programs, the Environmental Response Team (ERT), and Headquarters. These evaluation criteria identify what data need to be collected, and how that data translate into an appropriate score for each Core ER element. The elements and evaluation criteria will be reviewed each year for relevance to ensure that the programs have the highest standards of excellence and that the measurement clearly reflects the level of readiness. The data are collected from each Regional office, ERT, and Headquarters using a systematic, objective process. Each evaluation team consists of managers and staff, from Headquarters and from another EPA Regional office, with some portion of the team involved in all reviews for consistency and some portion varying to ensure independence and objectivity. For instance, a team evaluating Region A might include some or all of the following: a staff person from Headquarters who is participating in all reviews, a staff person from Headquarters who is very familiar with Region A activities, a manager from Headquarters, and a staff person and/or manager from Region B. One staff or group will be responsible for gathering and analyzing all the data to determine the overall score for each Regional office, ERT, and Headquarters, and for determining an overall National score.

QA/QC Procedures: See “Methods, Assumptions and Suitability”

Data Quality Review: The evaluation team will review the data (see Methods, Assumptions and Suitability) during the data collection and analysis process. Additional data review will be conducted after the data has been analyzed to ensure that the scores are consistent with the data and program information. There currently is no specific database that has been developed to collect, store, and manage the data.

Data Limitations: One key limitation of the data is the lack of a dedicated database system to collect and manage the data. Standard software packages (word processing, spreadsheets) are used to develop the evaluation criteria, collect the data, and develop the accompanying readiness scores.

Error Estimate: It is likely that the error estimate for this measure will be small for the following reasons: the standards and evaluation criteria have been developed and reviewed extensively by Headquarters and EPA’s Regional managers and staff; the data will be collected by a combination of managers and staff to provide consistency across all reviews plus an important element of objectivity in each review; the scores will be developed by a team looking across all ten Regions, ERT, and Headquarters; and only twelve sets of data will be collected, allowing for easier cross-checking and ensuring better consistency of data analysis and identification of data quality gaps.

New/Improved Data or Systems: There are no current plans to develop a dedicated system to manage the data.

References: FY 2003 Core Emergency Response Report, based on Regional and Headquarters evaluations (for internal EPA use only).

FY 2005 Performance Measures:

- **Number of inspections and exercises conducted at oil storage facilities required to have Facility Response Plans**
- **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. Historically, oil program performance has been reported in CERCLIS; a new, more streamlined reporting system is being developed in 2004 to store oil spill prevention, emergency preparedness and response information. Information included in the new database will be similar to CERCLIS, but definitions and activities pertaining to oil will be included to support oil spill program needs for FY 2004 and beyond.

Data Source: Automated EPA system; Headquarters and Regional offices enter data (Currently CERCLIS, has a new system pending).

Methods, Assumptions and Suitability: Each performance measure is a specific variable within CERCLIS.

QA/QC Procedures: N/A

Data Quality Reviews: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: The Superfund/Oil Implementation Manual, 1987. This is being revised as part of the development of the new database.

FY 2005 Performance Measures:

- **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 support 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: NA

New/Improved Data or Systems: None

References: Office of Site Remediation Enforcement (OSRE) Quality Management Plan, approved April 11, 2001

FY 2005 Performance Measures:

- **Reach a settlement or take an enforcement action before the start of a remedial action at 90 percent of Superfund sites having viable, liable responsible parties other than the Federal government.**

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 are collected on a fiscal year basis only. Enforcement reports are run at the end of the fiscal year, and the data that support 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: NA

New/Improved Data or Systems: None

References: Office of Site Remediation Enforcement (OSRE) Quality Management Plan, approved April 11, 2001.

STATUTORY AUTHORITIES

Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. (1970), and Reorganization Plan #3 of 1970

Clean Water Act

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

Community Environmental Response Facilitation Act (CERFA)

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)

Departments of Veterans Affairs, Housing and Urban Development, and Independent Agencies Appropriations Act of 1999, Public Law 105-276, (112 Stat. 2461, 2499; 42 U.S.C. 6908a).

Executive Order 12241 of September 1980, National Contingency Plan, 3 CFR, 1980

National Environmental Policy Act (NEPA)

Oil Pollution Act 33 U.S.C.A.

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

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)

Solid Waste Disposal Act as amended by Hazardous and Solid Waste Amendments of 1984 to the Resource Conservation and Recovery Act of 1976

Uranium Mill Tailings Radiation Land Withdrawal Act of 1978

Executive Order 12656 of November 1988, Assignment of Emergency Preparedness Responsibilities, 3 CFR, 1988

Executive Order 12580 of January 1987, Superfund I

OBJECTIVE: Enhance Science and Research

Through 2008, provide and apply sound science for protecting and restoring land by conducting leading-edge research and developing a better understanding and characterization of environmental outcomes under Goal 3.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Enhance Science and Research	\$46,531.6	\$59,836.6	\$57,555.6	(\$2,280.9)
Environmental Program & Management	\$3,117.4	\$3,026.1	\$2,983.2	(\$42.9)
Hazardous Substance Superfund	\$25,144.1	\$43,883.3	\$42,840.8	(\$1,042.5)
Leaking Underground Storage Tanks	\$682.4	\$730.6	\$736.7	\$6.1
Oil Spill Response	\$881.0	\$919.4	\$924.4	\$5.0
Science & Technology	\$15,798.6	\$10,374.9	\$9,112.3	(\$1,262.6)
Buildings and Facilities	\$812.0	\$823.0	\$886.9	\$63.9
Inspector General	\$96.1	\$79.1	\$71.3	(\$7.7)
Total Workyears	184.8	181.4	186.4	5.0

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Congressionally Mandated Projects	\$5,963.3	\$0.0	\$0.0	\$0.0
Superfund: Remedial	\$0.0	\$6,291.5	\$6,234.0	(\$57.5)
Research: Land Protection and Restoration	\$25,122.8	\$36,568.5	\$33,059.3	(\$3,509.2)
Research: SITE Program	\$4,781.1	\$6,941.1	\$6,927.7	(\$13.4)
Administrative Projects	\$10,664.4	\$10,035.5	\$11,334.6	\$1,299.2
TOTAL	\$46,531.6	\$59,836.6	\$57,555.6	(\$2,280.9)

ANNUAL PERFORMANCE GOALS AND MEASURES***Research*****Scientifically Defensible Decisions for Site Clean**

- In 2005 Complete at least four SITE demonstrations, with emphasis on NAPLs and sediments, in order to, by 2010, develop or evaluate 40 scientific tools, technologies, methods, and models, and provide technical support that enable practitioners to 1) characterize the nature and extent of multimedia contamination; 2) assess, predict, and communicate risks to human health and the environment; 3) employ improved remediation options; and 4) respond to oil spills effectively.
- 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 Delivered state-of-the-science report 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 to ensure cost-effective and technically sound site clean-up.

Performance Measures:

	FY 2003 Actuals	FY 2003 Actuals	FY 2003 Actuals	
Complete draft of the FY 2002 Annual SITE Report to Congress.	1			draft report
Reports on performance data for conventional sediment remedies for three sites.		3		reports
SITE demonstrations completed			4	demonstrations

Baseline: This APG will contribute to an array of assessment and remediation options targeted to addressing situations where uncertainty remains high, technology performance is lacking, or where existing options are cost- or time intensive. Through FY 2005, non-aqueous phase liquids (NAPLs) and contaminated sediments will be of special interest because of the cost and complexity of assessing and remediating these sites, as well as the risks they pose to public health. EPA estimates that approximately 20% of National Priorities List (NPL) sites have contaminated sediments with risk from a number of toxic substances (<http://www.epa.gov/superfund/resources/sediment/index.htm>). Available remedies are unproven, expensive to implement, or both. The SITE program evaluates tools, technologies, and approaches for remediation, measurement, and monitoring. The innovative approaches that are evaluated are largely developed in the private sector. The purpose of the program is to provide an independent assessment of performance, so that site decision-makers can gain confidence in selecting an innovative approach. Since the inception of the SITE program in 1986, clean-up of contaminated sites through the use of innovative technologies has resulted in an estimated net cost savings of \$2.4 billion (<http://www.epa.gov/ORD/SITE/congress/540R03502/540R03502.htm>). Beginning in FY 2005, regular evaluations by independent and external panels will provide reviews of EPA research programs' relevance, quality, and successful performance to date, in accordance with OMB's Investment Criteria for Research and Development. Reviewers will also qualitatively determine whether EPA has been successful in meeting its annual and long-term commitments for research. Recommendations and results from these reviews will improve the design and management of EPA research programs and help to measure their progress under the Government Performance and Results Act (GPRA).

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Performance Measure:

SITE demonstrations completed

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: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

STATUTORY AUTHORITIES

Brownfields Revitalization and Environmental Restoration Act

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

Hazardous and Solid Waste Amendments (HSWA)

Oil Pollution Act (OPA)

Resource Conservation and Recovery Act (RCRA)

Solid Waste Disposal Act (SWDA)

Superfund Amendments and Reauthorization Act

GOAL 4: Healthy Communities and Ecosystems

STRATEGIC GOAL: Protect, sustain, or restore the health of people, communities, and ecosystems using integrated and comprehensive approaches and partnerships.

BACKGROUND AND CONTEXT

To promote healthy communities and ecosystems, EPA must bring together a variety of programs, tools, approaches and resources. The support of a multitude of stakeholders, along with strong partnerships with Federal, State, Tribal and local governments, are necessary to achieve the Agency's goal of protecting, sustaining or restoring healthy communities and ecosystems. The Agency's goal of achieving healthy communities and ecosystems will be accomplished by focusing both on stressors to human health and the environment and the locations at most risk from environmental problems.

A key component of this goal is protecting human health and the environment by identifying, assessing, and reducing the potential risks presented by the thousands of chemicals on which our society and economy have come to depend. These include the pesticides we use to meet national and global demands for food, and the industrial and commercial chemicals found throughout our homes, our workplaces, and the products we use.

Some pest-control methods that are used to ensure an abundant and affordable food supply can cause unwanted environmental or health effects if not used and managed properly. Apart from its role in agriculture, effective pest control is also essential in homes, gardens, rights-of-ways, hospitals, and drinking water treatment facilities. Pesticides are an important part of pest management in each of these settings. EPA licenses pesticides to help ensure they can be used safely and beneficially while avoiding unintended harm to our health or environment. EPA must also address the emerging challenges posed by a growing array of biological organisms—naturally occurring and, increasingly, genetically engineered—that are being used in industrial and agricultural processes.

Agriculture accounts for about 80 percent of all conventional 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 percent in 1998 to 7.5 percent of total pounds reported for 2002.

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 addressing this threat. Antimicrobials play an important role in public health and safety. EPA is conducting comprehensive scientific assessments and developing test protocols to determine product safety and efficacy of products used against chemical and biological weapons of mass destruction, and registering products as necessary. EPA is also developing a timeline for prioritizing and implementing the tests.

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. 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 polychlorinated biphenyls (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.

Americans come into daily contact with any number of chemicals that entered the market before the New Chemicals Program was established in 1978, yet relatively little is known about many of their

potential impacts. Getting basic hazard testing information on large volume chemicals is one focus

of EPA's work in the Existing Chemicals program. The voluntary High Production Volume program challenges 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. Risks of other chemicals, such as lead or PCBs are well known, and EPA's responsibility centers on reducing exposure through proper handling or disposal.

The Acute Exposure Guideline Levels (AEGLs) Program was designed by EPA to provide scientifically credible data to directly support chemical emergency planning, response, and prevention programs mandated by Congress. Emergency workers and first responders need to know how dangerous a chemical contaminant may be to breathe or touch, and how long it may remain dangerous. The program develops short-term exposure limits applicable to the general population for a wide range of extremely hazardous substances (approximately 400) for purposes related to chemical terrorism and chemical accidents.

In addition to addressing human health and ecosystems and stressors such as chemicals and pesticides, this goal also focuses on those geographic areas with human and ecological communities at most risk. For example the Mexican Border is an area facing unique environmental challenges. At the Mexican Border, EPA addresses local pollution and infrastructure needs that are priorities for the Mexican and the U.S. governments under the Border 2012 agreement.

As the population in coastal regions grows the challenges to preserve and protect these important ecosystems increase. Through the National Estuary Program, coastal areas have proved valuable grounds for combining innovative and community-based approaches with national guidelines and inter-agency coordination to achieve results.

Wetlands are among the most productive ecosystems in the world, comparable to rain forests and coral reefs. Yet the nation loses an estimated 58,000 acres per year, and existing wetlands may be degraded by excessive sedimentation, nutrient enrichment, and other factors.¹

¹ Dahl, T.E. 1990. *Status and Trends of Wetlands in the Conterminous United States, 1986 to 1997*. Washington, DC: U.S. Department of the Interior, U.S. Fish and Wildlife Service. Available online at:

In 2001 the Supreme Court determined that some isolated waters and wetlands are not regulated under the Clean Water Act. Many waters with important aquatic values may no longer be covered by CWA Section 404 protections.

Large water bodies like the Gulf of Mexico, the Great Lakes, and the Chesapeake Bay are surrounded by industrial and other development and have been exposed to substantial pollution over many years at levels higher than current environmental standards permit. As a result, the volume of pollutants in these water bodies has exceeded their natural ability to restore balance. Working with stakeholders, EPA has established special programs to protect and restore these unique resources by addressing the vulnerabilities for each.

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 and the environment, display patterns of noncompliance, and include disproportionately exposed populations. In addition, the EPA's enforcement program supports Environmental Justice effort by focusing enforcement actions and criminal investigations on industries that have repeatedly violated environmental laws in minority and/or low-income areas.

Further, EPA's Brownfields Initiative funds pilot programs and other research efforts; clarifies liability issues; enters into Federal, state and local partnerships; conducts outreach activities; and creates job training and workforce development programs.

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 has 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 working to develop solutions to local environmental issues.

The Agency will continue to support the National Environmental Justice Advisory Council

<http://wetlands.fws.gov/bha/SandT/SandTReport.html>: Report to Congress on the Status and Trends of Wetlands in the Conterminous United States, 1986 to 1997.

(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 representatives of various White House offices, to ensure that environmental justice concerns are incorporated into all Federal programs.

Research

EPA has a responsibility to ensure that efforts to reduce potential environmental risks are based on the best available scientific information. Strong science allows identification of 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 4, EPA will conduct research in many areas, including emerging areas such as biotechnology and computational toxicology, to help develop better understandings and characterizations of positive environmental outcomes related to healthy communities and ecosystems.

EPA uses several noteworthy mechanisms to ensure scientific relevance, quality, and integration as it seeks to produce sound environmental results. For example, EPA's Science Advisor is responsible for advising the EPA Administrator on science and technology issues to support Agency programs, policies, procedures, and decisions. Also, EPA uses its Science Advisory Board (SAB), an independently chartered Federal Advisory Committee Act committee, to conduct annual, in-depth reviews and analyses of EPA's Science and Technology account. The SAB provides its findings to the House Science Committee and reports findings to EPA's Administrator after every annual review. Under the Science to Achieve Results (STAR) program, all research projects are selected for funding through a rigorous, competitive, and external peer review process designed to ensure that only the highest quality efforts receive funding support. All EPA scientific and technical work products must undergo either internal or external peer review, with major or significant products requiring external peer review.

The Agency also uses a Peer Review Handbook (2nd Edition) which codifies procedures and guidance for conducting quality EPA peer reviews. Taken together, these mechanisms serve to ensure EPA's research and science remains relevant and committed to achieving superior environmental results.

MEANS AND STRATEGY

In coordination with our State and Tribal co-regulators and co-implementers and with the support of industry, environmental groups, and other stakeholders, EPA will use multiple approaches to address risks associated with chemicals and pesticides. Improving communities' ability to address local problems is a critical part of our efforts to reduce risk.

The Agency's strategy for reducing the risks of exposures to pesticides and industrial chemicals is based on:

- Identifying and assessing potential risks from chemicals, pesticides, and microorganisms;
- Setting priorities for addressing these risks;
- Developing and implementing strategies aimed at preventing risks and managing those risks that cannot be prevented;
- Implementing regulatory measures, such as systematic review of pesticides and new chemicals, and developing and implementing procedures for safe production, use, storage, and handling of chemicals, pesticides, and microorganisms;
- Employing innovative voluntary measures, such as promoting the use of reduced-risk pesticides and challenging companies to assess and reduce chemical risks and develop safer and less polluting new chemicals, processes, and technologies; and
- Conducting outreach and training, and establishing partnerships.

Pesticides Management

EPA has the responsibility under Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and the Federal Food and Drug Cosmetic Act (FFDCA) to set terms and conditions of pesticide registration, marketing and use. EPA will use these authorities to reduce risk from residues of pesticides, particularly those pesticides with the highest potential to cause harm to human health and the environment, including those which pose particular risks to children and other susceptible populations. All new

pesticides are reviewed for registration through 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.

New registration actions result in more pesticides on the market that meet the strict Food Quality Protection Act (FQPA) pesticide risk-based standards, which brings the Agency closer to the objective of reducing adverse risks from pesticide use. In 2005, 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 quality and production rates. EPA measures adoption of the reduced-risk pesticides by tracking the amount of acres treated --- or "acre treatments" --- using reduced risk pesticides. By 2005, an estimated 8.7 percent of total acre-treatments are expected to use reduced-risk pesticides.

Another priority is to review older pesticides in applying the FQPA safety standards. We will complete pesticide reregistration eligibility decisions by 2008 (food use by 2006) and, in tandem with that work, meet our FQPA statutory goal of reassessing 9,721 existing tolerances by August 2006. The Strategic Agricultural Partnership Initiative and the Pesticide Environmental Stewardship Program collaborate with USDA, States, and non-governmental organizations to demonstrate integrated pest management strategies that reduce pesticide residues in the environment.

Pesticide and pest control issues extend beyond the farm. Public health officials and homeowners use pesticides to control a variety of pests, protect human health, and benefit consumers. Through our regulatory programs, EPA reviews all pesticides with the goal of minimizing pesticide exposure and risk. For example, as of 2002, children's exposure to organophosphates -- an older, riskier class of pesticide -- was reduced by 60 percent through the elimination of many uses in and around the house. EPA registers antimicrobials used by public drinking water treatment facilities and by food processing plants and hospitals to disinfect surfaces. Effective antimicrobials are of growing importance as many serious disease-causing organisms become resistant to our antibiotic procedures. To provide environmental, public health, and economic benefits,

we will continue addressing risk from older pesticides, making new pesticides available and addressing emergency health or pest damage issues flexibly and efficiently.

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. 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 reduced the use of other insecticides that present higher risk to wildlife.

Toxic Chemicals

Three primary approaches comprise EPA's strategy to prevent and reduce risks that may be posed by chemicals and microorganisms:

- Preventing the introduction into U.S. commerce of chemicals and organisms that pose unreasonable risks;
- Effectively screening the stock of chemicals already in use for potential risk; and
- Developing and implementing action plans to reduce use of and exposure to chemicals that have been demonstrated to harm humans and the environment.

EPA intends to work with States and Tribes, other Federal agencies, the private sector, and international entities to implement this strategy and, in particular, to make protecting children and the aging population a fundamental goal of public health and environmental protection.

TSCA requires that EPA review all new chemicals and organisms prior to their production or import and be notified of significant new uses for certain chemicals that have already been reviewed.² While TSCA gives EPA a 90-day review period, new criteria, such as preventing the introduction of persistent bioaccumulative toxics (PBTs) or considering the use of new chemicals as potential weapons of terror, continue to emerge. An expanded set of screening tools will increase EPA's and

² Toxic Substances Control Act Section 5: Manufacturing and Processing Notices, Public Law 94-469, October 11, 1976

industry's efficiency by using the limited data that companies provide in their Pre-manufacturing Notice (PMN) submissions to predict potential hazards, exposures, and risks quickly and effectively.

In 2005, EPA will continue to make progress in screening, assessing, and reducing risks posed by the 66,600 chemicals that were in use prior to the enactment of TSCA. Thousands of these chemicals are still used today, and nearly 3,000 of them are "high production volume" (HPV) chemicals, produced or imported in quantities exceeding one million pounds per year. Approximately 300 companies and 100 consortia are voluntarily providing data covering over 2,200 of the more than 2,800 chemicals included in the HPV Challenge Program.³ EPA will make the data publicly available and screen for potential hazards and risks. We will then identify and set priorities for further assessment, and determine the need to take action to eliminate or effectively manage the risks identified. To support these efforts, we will draw on data already obtained through the TSCA Inventory Update Rule⁴, particularly on new exposure-related data to be provided beginning in 2005.

In certain instances, risk-reduction efforts are targeted at specific chemicals. Foremost among these is the Federal government's commitment to eliminate the incidence of childhood lead poisoning. Since 1973, we have reduced environmental lead levels by phasing out leaded gasoline and addressing other sources of lead exposure. Since the 1990's, EPA has focused on reducing children's exposure to lead in paint and dust through a regulatory framework and by educating parents and the medical community about prevention.⁵ EPA's efforts, combined with those of other Federal agencies, has led to a 50 percent drop in the number of children in the U.S. that have elevated blood levels, to approximately 400,000 children.

EPA is employing a multimedia, cross-Agency strategy to focus on other high-risk chemicals and classes of chemicals. For example, we are working to prevent new PBTs from entering commerce and to reduce risks associated with PBTs, including mercury, that are currently in use or that have been used in the past. In addition,

recommendations will be provided to EPA in 2004 from a panel of national experts on asbestos that will assist the Agency in designing strategies to address remaining asbestos risks. We will expand successful pilots to encourage companies to retire from service large capacitors and transformers containing PCBs to meet ambitious new targets for safe disposal by 2008.

U.S./Mexican Border

To reduce environmental and human health risks along the U.S./Mexico Border, EPA employs both voluntary and regulatory measures. Efforts include 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 a new environmental plan developed with SEMARNAP (EPA's Mexican counterpart), completed in April 2003, the States and Tribes will play a more substantial and meaningful role in:

- determining how Federal border programs are developed and funded;
- developing regional workgroups that empower border citizens; and
- ensuring that programs devolve from Mexico's Federal government to the Mexican states, with corresponding funding.

Ecosystems

EPA will work with Federal, state, Tribal, local, and private sector partners to achieve our ecosystem objectives. Through continuing emphasis on partnerships and innovation, we will protect and restore coastal water quality through the National Estuary Program and related coastal watershed support. In coordination with the Corps of Engineers, EPA will improve the CWA Section 404 program to achieve no net loss of wetlands by

³ 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>.

⁴ U.S. EPA website, www.epa.gov/opptintr/iur; Title 40 CFR Part 710, Subpart A

⁵ See www.epa.gov/lead

avoiding, minimizing and compensating for losses. With an emphasis on community-based restoration, EPA will contribute to the goal of no net loss of wetlands.

Great Lakes Strategy 2002, developed by EPA 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).

Work in the Chesapeake Bay is based on a unique regional partnership formed to direct and conduct restoration of the Chesapeake Bay. Partners include Maryland, Virginia and Pennsylvania; the District of Columbia; the Chesapeake Bay Commission; EPA; and participating citizen advisory groups. A comprehensive and far-reaching agreement, Chesapeake 2000, will guide restoration and protection efforts through 2010. The agreement focuses on improving water quality as the most critical element in the overall protection and restoration of the Bay and its tributaries.

EPA's efforts in the Gulf of Mexico represent a broad, multi-organizational partnership based on the participation of business and industry, agriculture, local government, citizens, environmental and fishery interests, Federal agencies, and five Gulf States. The partners voluntarily identify key environmental problems and work at the regional, state, and local level to define and recommend solutions.

Brownfields

Brownfields are defined as real properties, where expansion, redevelopment, or reuse may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Brownfields include abandoned industrial and commercial properties, drug labs, mine-scarred land, and sites contaminated with petroleum or petroleum products. The Small Business Liability Relief and Brownfields Revitalization Act (SBLRBRA), signed into law in 2002, expands Federal grants for assessment, cleanup, and job training. To encourage revitalization and reuse of brownfield sites, the law limits the legal liability of prospective purchasers, innocent land holders, and contiguous property owners related to brownfield properties. In addition, the law provides for establishing and enhancing state

and Tribal response programs, which play a critical role in successfully cleaning up and revitalizing brownfields.

Brownfields grants will continue to provide communities with vital assessment, cleanup, revolving-loan fund, and job-training support. Brownfields assessment grants provide funding to inventory, characterize, assess, and conduct planning and community involvement activities related to brownfields. Brownfields revolving-loan fund grants provide funding for a grantee to capitalize a revolving loan and make subgrants to carry out cleanup activities. Cleanup grants, newly authorized by the Brownfields Law, will fund cleanup activities by grant recipients. Expanded authorities within the new law also address the potential for limited funding for institutional controls, insurance, and health monitoring. EPA will provide limited funding for grants that provide technical assistance, training, and research to Brownfields communities. EPA will also provide funding to create local environmental job training programs, ensuring that the economic benefits derived from Brownfields revitalization efforts remain in the community.

EPA will continue to work in partnership with state cleanup programs to address brownfield properties. The Agency will provide states and Tribes with tools, information, and funding they can use to develop response programs that will address environmental assessment cleanup, characterization, and redevelopment needs at sites contaminated with hazardous wastes and petroleum. The Agency will continue to encourage the empowerment of state, Tribal, and local environmental and economic development officials to oversee brownfield activities and the implementation of local solutions to local problems.

Research

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 its 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 multi-year plans, EPA's Strategic Plan, available research plans, EPA program offices and Regions, Federal research partners, and peer advisory bodies such as the Science Advisory Board (SAB) and others. Agency teams prioritize research areas by examining risk and

other factors such as National Science and Technology Council (NSTC) research, client office

priorities, court orders, and legislative mandates. EPA's research program will increase understanding of environmental processes and capabilities to assess environmental risks to both human health and ecosystems.

To enable the Agency to enhance science and research for healthy people, communities, and ecosystems through 2008, EPA will engage in high priority, multidisciplinary research efforts to improve understanding of the risks associated with: 1) human health and ecosystems; 2) climate change; 3) pesticides and toxics; 4) computational toxicology; 5) endocrine disruptors; 6) mercury, and 7) homeland security. Following is a summary of the means and strategies to meet the Agency's long-term objectives in these areas.

EPA's human health research represents the Agency's only comprehensive program to address the limitations in human health risk assessment. Scientists across the Agency will use the measurement-derived databases, models, and protocols developed through this research program to strengthen the scientific foundation for human health risk assessment. In addition, global change, loss and destruction of habitat due to sprawl and exploitation of natural resources, invasive species, non-point source pollution, and the accumulation and interaction of these effects present emerging ecological challenges. EPA will conduct research to strengthen its ability to assess and compare risks to ecosystems, protect and restore them, and track progress toward optimal ecological outcomes.

EPA designs its Climate Change research program in collaboration with the other agencies participating in the Climate Change Science Program (CCSP). This research focuses on assessing potential direct and indirect effects of climate change on human health, air quality, water quality, and aquatic ecosystems; identifying and quantifying the uncertainties associated with those effects; and comparing potential climate change effects with effects caused by other stressors.

Research under the Food Quality Protection Act (FQPA) builds on earlier research to reduce scientific uncertainty in risk assessment. This research will provide data needed to develop refined aggregate and cumulative risk assessments, develop the appropriate safety factors to protect children and other sensitive populations, refine risk assessments,

and provide risk mitigation technologies. By 2008, EPA will provide scientific tools that can be used to

characterize, assess, and manage risks associated with the implementation of FQPA.

The Agency will conduct additional research on pesticides and toxics that support the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA), designed to enhance the Agency's human health and ecological risk assessment and risk management capabilities. Efforts will include the development of predictive tools used in testing requirements, research on probabilistic risk assessment methods, biotechnology, and other areas of high interest and utility to the Agency.

To enhance the scientific basis and diagnostic/predictive capabilities of existing and proposed chemical testing programs, EPA's Computational Toxicology (CT) Research Program will use *in vitro* or other approaches such as molecular profiling, bioinformatics, and quantitative structure-activity relationships. These alternative approaches, in conjunction with highly sophisticated computer-based models and research results, will greatly reduce the use of animal testing to obtain chemical toxicity information. To support our regulatory mandates, endocrine disruptors research will focus on improving EPA's scientific understanding of exposures to, effects of, and management of endocrine-disruptor chemicals. Research in direct support of EPA's screening and testing programs will evaluate current testing protocols and develop new protocols to evaluate potential endocrine effects of environmental agents. The Agency will also conduct research to determine impacts that endocrine-disrupting chemicals may have on humans, wildlife, and the environment.

A 1997 *EPA Mercury Study Report to Congress* discussed the magnitude of mercury emissions in the United States and concluded that a plausible link exists between human activities that release mercury from industrial and combustion sources in the United States and methylmercury concentrations in humans and wildlife. The Agency will conduct risk management research for managing emissions from coal-fired utilities (critical information for rule-making) and non-combustion sources of mercury; on the fate and transport of mercury in the atmosphere; for assessing methylmercury in human populations; and for developing risk communication methods and tools.

EPA's Homeland Security research program will expand knowledge of potential threats, as well as its response capabilities, by assembling and evaluating private sector tools and capabilities. Preferred response approaches will be identified, promoted, and evaluated for potential future use by first responders, decision makers, and the public. The Agency will be working closely with other federal and outside organizations to fill gaps in this critical research area. EPA's research will focus on preparedness, risk assessment, detection, containment, decontamination and disposal of chemical and biological attacks water systems.

STRATEGIC OBJECTIVES AND FY 2005 ANNUAL PERFORMANCE GOALS

Chemical, Organism, and Pesticide Risks

- Ensure new pesticide registration actions (including new active ingredients and new uses) meet new health standards and are environmentally safe.
- Increase percentage of acre treatments that will use reduced-risk pesticides.
- Decrease occurrence of residues of carcinogenic and cholinesterase-inhibiting neurotoxic pesticides on foods eaten by children from their 1994 to 1996 average.
- Ensure that through ongoing data reviews, pesticide active ingredients, and products that contain them, are reviewed to assure adequate protection for human health and the environment, taking into consideration exposure such as subsistence lifestyles of the Native Americans.
- Standardize and validate screening assays.
- Reduce from 1995 levels the number of incidents involving mortalities to nontargeted terrestrial and aquatic wildlife caused by pesticides.
- Reduce exposure to and health effects from priority industrial and commercial chemicals.
- Identify, restrict, and reduce risks associated with industrial and commercial chemicals.

Ecosystems

- Support wetlands and stream corridor restoration and management and

assessment/monitoring of overall wetland health.

- Support projects with the goal of creating,
- restoring or protecting 2400 acres of important coastal and marine habitats per year in the Gulf of Mexico.
- Assist the Gulf States in implementing watershed restoration actions in priority impaired coastal river and estuary segments.
- Improve Great Lakes ecosystem components, including progress on fish contaminants, beach closures, air toxics and trophic status.
- Improve the aquatic health of the Chesapeake Bay.
- By 2005, working with partners, achieve no net loss of wetlands.

Community Health

- Empower states, Tribes, local communities and other stakeholders in economic redevelopment to work together to prevent, assess, safely cleanup, and reuse Brownfields.
- Through December 2003, the Brownfields program has awarded 552 Brownfields assessment grants, over 171 Brownfields revolving loan funds and 50 cleanup grants, and 66 job training grants.
- Assess 1,000 Brownfields properties,
- Clean up 60 properties using Brownfields funding,
- Leverage \$1.0 billion in cleanup/redevelopment funding,
- Leverage 5,000 jobs.
- Train 200 participants, placing 65 percent in jobs.

Science and Research

- Establish and maintain Centers of Applied Science to provide technical assistance and coordination of applied research activities addressing the latest needs of stakeholders.
- Provide high quality exposure, effects and assessment research results that support the August 2006 reassessment of current-use pesticide tolerances, so that, by 2008, EPA will be able to characterize key factors influencing children's and other subpopulations' risks from pesticide exposure.

- By 2005, provide risk assessors and managers with methods and tools for measuring exposure and effects in children.
- By 2005, provide technical guidance for implementing and evaluating projects to restore riparian zones, so that, by 2010, watershed managers have state-of-the-science field evaluation tools, technical guidance and decision-support systems.
- Through 2005, initiate or submit to external review 28 human health assessments and complete 12 human health assessments through the Integrated Risk Information System (IRIS).

HIGHLIGHTS

Chemical, Organism and Pesticide Risks

Pesticide Registration

In 2005, the Agency will continue its efforts to decrease the risk to the public from pesticide use through the regulatory review of new pesticides. EPA expedites the registration of reduced risk pesticides, which are generally presumed to pose lower risks to consumers, workers, the ozone layer, groundwater, and 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.

Biological agents are potential weapons that could be exploited by terrorists against the United States. EPA's pesticides antimicrobial program is working to help address this threat. Antimicrobials play an important role in public health and safety. EPA is conducting comprehensive scientific assessments and developing test protocols to determine the safety and efficacy of products used against chemical and biological weapons of mass destruction, and registering products as necessary. EPA is also developing a timeline for prioritizing and implementing the tests.

Tolerance Reassessment and Reregistration

The 1996 Food Quality Protection Act requires the reassessment of existing pesticide tolerances by 2006. A tolerance is the amount of pesticide residue that may legally remain on a food. 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. Many pesticides must be reviewed under both statutes. Additional program requirements and priorities within FQPA 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;
- Screening of pesticides for endocrine disrupting effects;
- Enhancements to minor use program; and
- Emphasis on registration of reduced risk pesticides

In the Pesticides program, the main focus, our primary goal, and our largest public commitment is to meet the final statutory goal for completing tolerance reassessment by August 3, 2006. Additional resources of \$4,400,000 are requested in this program to complete food use reregistration work necessary for the Agency to complete tolerance reassessments by 2006 as required by FQPA. These resources will support completion of conventional pesticides, inerts, biopesticides and antimicrobial reviews. The reviews can take several years to complete, therefore FY 2005 is the last opportunity to ensure the Agency has the resources to meet the 2006 FQPA deadline.

In FY 2005, the Agency will continue its review of older pesticides and move forward toward its ten-year statutory deadline of reassessing all 9,721 tolerances. EPA met its first two statutory deadlines under FQPA for tolerance reassessment. The tolerance reassessment process addresses the highest-risk pesticides first. Using data surveys conducted by USDA, 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. The Agency is tracking its progress in determining appropriate tolerances for these pesticides under the FQPA standards. In 2005, EPA will continue its effort to reduce dietary risks to children by completing approximately 93 percent (cumulative) of these children's tolerances of special concern.

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 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 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.

In 2005, EPA will work toward completing 40 Reregistration Decisions⁶, 400 product reregistrations and 1000 tolerance reassessments. The Agency will also continue to develop tools to screen pesticides for their potential to disrupt the endocrine system. Over the longer run, these changes will enhance protection of human health and the environment.

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 FY 2005, the Agency will continue efforts to reach more farmers and grower groups, encourage them to adopt safer pesticides, and use environmental stewardship and integrated pest management practices. These outreach efforts play pivotal roles in moving the nation to the use of safe pest control methods, including reduced risk pesticides. These programs promote risk reduction through collaborative efforts with stakeholders to use safer alternatives to traditional chemical methods of pest control.

Endangered Species

Also in FY 2005, the Agency is requesting additional resources of \$1,000,000 for the Endangered Species program. The Agency has been working with the Fish and Wildlife Service and the National Marine Fisheries Service to improve the review process on the potential impact of pesticides on endangered species. Efforts include elevating the level of detail of specificity in risk assessments to more realistically predict risks to endangered species populations; developing a compendium of species biology, food and habitat requirements, listing specification and recovery efforts; ensuring

implementation of applicable label provisions; and supporting State and Tribal entities in protecting endangered species. This funding will be used mainly by the states for assisting in the implementation of these improvements.

Endocrine Disruptors

EPA's Endocrine Disruptors Screening Program (EDSP) was established in response to an FQPA requirement, and to growing concerns in the scientific community about observed adverse effects in wildlife and their potential relationship to human effects. The program's primary objectives are to establish validated assays and scientifically-supported tools for testing chemicals for possible adverse effects to the endocrine system. FQPA requires that "validated" assays be used in the Screening Program, but at passage in 1996, available endocrine effects test methods were principally experimental and none had been validated. EPA has spent the past several years standardizing a defined set of assays and establishing their relevance and reliability. The long-term outcomes of the EDSP will be a baseline estimate of the degree of endocrine disruption occurring from environmental chemicals, and a way to measure the risk.

High Production Volume Challenge Program

EPA's High Production Volume (HPV) Challenge Program, established in cooperation with industry, environmental groups, and other interested parties, works to ensure that critical human health and environmental effects data on approximately 2,800 HPV chemicals are screened and made publicly available. HPV chemicals are defined as industrial chemicals that are manufactured or imported into the United States in volumes of one million pounds or more each year. Through this program, EPA asks industry to voluntarily sponsor HPV chemicals for screening-level testing. Hazard test information on large volume chemicals is now more visible through the HPV website⁷, giving states, regions, and Tribes accessibility and the ability to share critical data and information. EPA's screening efforts should be well under way by FY 2005 and are expected to result in follow up actions on five to ten percent of the chemicals screened.

Lead Poisoning Prevention Activities

⁶ Reregistration Decisions include Reregistration Eligibility Decisions [REDs], Tolerance Reregistration Eligibility Decisions [TREDs] and Interim Reregistration Eligibility Decisions [IREDs].

⁷ U.S. Environmental Protection Agency, Office of Pollution Prevention and Toxics. "High Production Volume (HPV) Challenge Program." Available online at: <http://www.epa.gov/chemrtk/volchall.htm>. Washington, DC. Accessed September 9, 2003.

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. In 2005, EPA plans to proceed with a proposed rule on the de-leading of bridges and structures. Also, because much of the remaining incidence of lead poisoning occurs in low-income, urban areas, new public education initiatives will focus on these populations. EPA also plans to step up efforts with the private sector to increase knowledge and ability to work in a lead-safe manner as a normal part of doing business, and plans to ensure that special attention is paid to private sector (non-profit and for-profit) organizations working in high-impact areas.

Risk Management Plans

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 (LEPCs) implement the risk management plan (RMP) program. In FY 2002, 398 RMP audits were conducted and the Agency continues to make steady progress in this area. In FY 2005, EPA will provide technical assistance grants, technical support, outreach, and training to state and LEPCs. Through these activities, states, local communities and individuals will be better prepared to prevent and prepare for chemical accidents.

Community Health

Brownfields

The Brownfields program is designed to empower states, Tribes, local communities and other stakeholders in economic redevelopment to work together to prevent, assess, safely cleanup, and reuse Brownfields. Through December 2003, the Brownfields program has awarded 552 Brownfields assessment grants, over 171 Brownfields revolving loan funds and 50 cleanup grants, and 66 job training grants. In FY 2005, working with its state, Tribal, and local partners to meet its objective to sustain, cleanup, and restore communities and the ecological systems that support them, EPA intends to assess 1,000 Brownfields properties, clean up 60 properties using Brownfields funding, leverage \$1.0 billion in

cleanup/redevelopment funding, leverage 5,000 jobs, and train 200 participants, placing 65 percent in jobs.

Ecosystems

National Estuary Program

EPA will continue to support protection and restoration efforts in high-priority ecosystems, including those covered by the National Estuary Program (NEP). Key NEP activities will include continued support for assessing status and trends, and implementation activities to restore and protect critical habitat.

State and Tribal Grants

EPA will continue its grants to states and Tribes to help them protect wetlands made vulnerable by the SWANCC ruling 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.

Watersheds

Targeted geographic watershed initiatives are an important component of community-based environmental protection and restoration. In the Great Lakes, EPA will target additional resources to clean up contaminated sediments and strive to reduce PCB concentrations in lake trout and walleye. The emphasis in the Chesapeake Bay will be the restoration of submerged aquatic vegetation (SAV). To achieve improved water quality and restore submerged aquatic vegetation, Chesapeake Bay partners have committed to reducing nutrient and sediment pollution loads sufficiently to remove the Bay and the tidal portions of its tributaries from the list of impaired waters. Continued implementation of core water programs and efforts to address the hypoxic zone will help to restore the waters of the Gulf of Mexico and its tributaries.

Research

Research for Human Health and Ecosystems

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, this research is primarily aimed at enhancing current risk assessment and management strategies and guidance to better consider risk determination needs for children.

In FY 2005, research will identify modes of action by which specific groups of chemicals/pesticides increase cancer or non-cancer health risks as a function of life stage, develop the necessary tools and models to characterize and conduct field studies on exposures to high-priority environmental chemicals in the elderly, and examine effects of pre-existing respiratory disease (e.g., asthma, bronchitis) on response to air pollutants.

EPA will continue to generate exposure measurement and exposure factor data and establish methods to support the development, evaluation, and enhancement of models of aggregate exposures, dose, and effects. This research seeks to understand the key determinants of exposure and risk, improve exposure measurement techniques, and develop critical data on exposure and exposure factors. The results will be used to fill data gaps and reduce reliance on numerous default assumptions that are currently used in the risk assessment process, which will strengthen the scientific foundation for human health risk assessment.

Additional research will provide regulatory decision-makers with models and guidance that will be used for conducting assessments for cumulative exposure and risks to pollutants that pose the greatest health risks to the American public. Activities for FY 2005 and beyond include: 1) developing and refining physiologically-based pharmacokinetic

(PBPK) models for using exposure, biomarker, and PK data in risk assessments; 2) examining promising new biomarkers of exposure and effects that can be used in future exposure and epidemiological studies, such as the National Children's Study (NCS); and 3) sponsoring research that will provide a framework for structuring evaluations of the toxicity of complex chemical mixtures for use in human and environmental health assessments.

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 may be from those changes, and what can be done to prevent, mitigate, or adapt to those changes. In FY 2005, 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. Baseline ecological condition of Western streams will be determined so that, by 2008, a monitoring framework is available for streams and small rivers in the Western U.S. that can be used from the local to the national level for statistical assessments of condition and change to ecological resources.

Research will also provide technical guidance for implementing and evaluating projects to restore riparian zones, which are critical landscape components for the restoration of aquatic ecosystems and water quality. Research will include: (1) development, demonstration and technical support for monitoring designs, indicators, and interpretive analysis tools to allow States and Tribes to monitor and report the condition of water resources; (2) development of approaches to identify and test the linkages between probability-based and targeted water quality monitoring programs, landscape characteristics and the probability of water body impairment; (3) development of monitoring methods and decision support systems to improve our ability to identify probable causes of ecological impairment in streams; and (4) development of monitoring approaches to evaluate the effectiveness of programs to manage and restore aquatic resources in reaching performance objectives at site, regional, state and national scales.

The Agency will continue research to assess the impacts of invasive species on U.S. ecosystems, including monitoring for invasive species as part of the Western EMAP program and the National Coastal Assessment, modeling zebra mussel influence on

nutrients in Great Lakes Ecosystems, and developing a model for predicting where certain species will invade next.

Research efforts in FY 2005 will continue to build on the Agency's FY 2004 Clear Skies Research Initiative to identify where emerging control technologies and continuous measurement of mercury combustion sources can facilitate or optimize mercury emissions reduction. This research will also give support to the recent Utility Mercury Reductions proposal signed by Administrator Leavitt on December 15, 2003.

EPA will increase efforts to implement information quality guidelines. While the Agency has extensive procedures in place to ensure that the information it disseminates meets high standards, further actions will be taken to ensure that such information is current and fully complies with the guidelines. In FY 2005, the Agency will establish an extramural mechanism to assist Regions in identifying external peer reviewers and securing their advice and assistance.

Climate Change Research

EPA's Climate Change Research Program supports one of six Administration FY 2005 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 (CCSP). 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 potential risks and opportunities.

Research for Pesticides and Toxics

EPA is continuing to build on research launched under the FY 2003 Biotechnology Initiative focusing on plant-incorporated protectants (PIP) crops. In FY 2005, the Agency will deliver a final report outlining the state-of-the-art in tools for monitoring resistance development in the field and the use of target pest ecology to refine Insect Resistance Management strategies, as they are determined in risk assessment practice. This report will focus on data gaps in pest biology, ecology, and population dynamics related to insect resistance development. The report will also lend insight into the development of appropriate tools to identify and

measure resistance in field populations of target pests.

Research for Computational Toxicology

EPA's Computational Toxicology research program supports the Molecular-level Understanding of Life Processes activity, one of the Administration's six FY 2005 Interagency Research and Development Priorities, by employing the use of genomic information and modern computational techniques to enable better management of chemicals that may be present in the environment. In FY 2005, EPA will invest additional resources in computational toxicology (CT) research – 4.0 FTE and \$4,080,093. The FY 2005 CT investment will build upon the current program by accelerating the use of bioinformatics and other computational approaches and apply the program to address other high priority regulatory issues, including the assessment of important classes of environmental agents. In FY 2005, the Agency will begin to develop computational models that could be used to help prioritize anti-microbial agents and inerts for screening and testing requirements.

Fellowships

The STAR fellowship program is the only Federal fellowship program designed exclusively for students pursuing advanced degrees in the environmental sciences and engineering. In FY 2005, the Agency will invest additional resources to support STAR graduate fellowships. This additional investment will extend the purpose of developing high quality scientists across multiple disciplines, including the biological and physical sciences, mathematics, computer sciences, and engineering that will benefit EPA, the private sector, and the entire Nation.

In FY 2005, EPA will also invest additional resources to support Association of Schools of Public Health (ASPH) fellowships. This investment will further extend the important contribution to public health issues that ASPH fellows provide within EPA, thereby helping EPA to better design its programs for human health outcomes. Under a cooperative agreement with the ASPH, eligible fellows are placed in EPA labs, centers, and offices to conduct projects that contribute to EPA's public health mission.

Research for Homeland Security

EPA's Homeland Security research program will continue to conduct critical cross-cutting research to provide near-term, appropriate, affordable, reliable, tested, and effective technologies and guidance. Work will focus on preparedness, risk

assessment, detection, containment, decontamination, and disposal of chemical and biological agents used in attacks on water systems. New work will be initiated in the decontamination and clean up of biological agents.

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. Partnerships, voluntary cooperation, international collaboration, industry, economic influences, industrial accidents, natural disasters, litigation, and legislation play critical roles, affecting the Agency's results. Changes in the focus, level of effort, or status of any of these components could affect the success of the Agency's programs under Goal 4. Consequently, EPA must consider these factors as it establishes annual performance measures and targets.

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. EPA also works with these agencies to coordinate with other countries and international organizations with which the United States shares environmental goals. The Agency employs a number of mechanisms and programs 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. Much of the success of EPA programs 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, new technology, newly identified environmental problems and priorities, or unanticipated complexity or magnitude of pesticide-related problems may affect the time frame for achieving the objectives or 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.

Progress in reducing risks is often highly dependent on industry's response to EPA assistance and initiatives. EPA has little direct control over the pace and volume at which industry develops new chemicals or pesticides; we primarily concentrate on providing industry with tools, such as the PBT Profiler and Pollution Prevention Framework, or

incentives, such as the priority review of reduced-risk pesticides, to help screen out high-risk chemicals before they are submitted for EPA review. These tools and incentives have been shown to be effective in gaining cooperation from industry and meeting our long-term and annual goals. In addition, voluntary programs, such as the HPV Challenge Program, operate exclusively on the basis of industry commitments for participation. Industry's response to such initiatives affects the Agency's ability to achieve effective new chemical screening efficiently.

Research

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. Such a challenge moves the Agency to a more integrated, efficient, and effective approach of reducing potential risks. As long as high quality science is a central tenant for actions taken by the Agency, then external factors will have a minimal impact on the goal.

Resource Summary
(Dollars in thousands)

	FY 2003	FY 2004	FY 2005	FY 2005 Req. v.
	Actuals	Pres. Bud.	Pres. Bud.	FY 2004 Pres Bud
Healthy Communities and Ecosystems	\$1,211,267.2	\$1,262,438.1	\$1,298,932.0	\$36,493.9
Chemical, Organism, and Pesticide Risks	\$345,298.1	\$364,126.3	\$383,305.4	\$19,179.2
Communities	\$313,167.7	\$317,572.9	\$319,958.4	\$2,385.4
Ecosystems	\$171,169.4	\$160,698.1	\$200,844.5	\$40,146.5
Enhance Science and Research	\$380,878.7	\$420,040.9	\$394,823.7	(\$25,217.2)
Total Workyears	3,923.7	3,824.4	3,850.1	25.8

OBJECTIVE: Chemical, Organism, and Pesticide Risks

Prevent and reduce pesticide, chemical, and genetically engineered biological organism risks to humans, communities, and ecosystems.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Chemical, Organism, and Pesticide Risks	\$345,298.1	\$364,126.3	\$383,305.4	\$19,179.1
Credit Subsidy Re-estimate	\$905.5	\$0.0	\$0.0	\$0.0
Environmental Program & Management	\$307,746.6	\$327,982.7	\$346,346.5	\$18,363.8
Science & Technology	\$4,939.6	\$5,379.6	\$5,469.4	\$89.8
Building and Facilities		\$6,827.6	\$7,375.2	\$547.6
State and Tribal Assistance Grants	\$23,630.5	\$22,236.0	\$22,367.0	\$131.0
Inspector General	\$1,334.9	\$1,700.4	\$1,747.3	\$46.9
Total Workyears	1,819.1	1,837.0	1,859.8	22.7

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Children and other Sensitive Populations	\$365.2	\$0.0	\$116.0	\$116.0
Categorical Grant: Pesticides Program Implementation	\$8,492.9	\$8,536.0	\$8,667.0	\$131.0
Pesticides: Field Programs	\$19,119.3	\$23,246.9	\$24,703.2	\$1,456.3
Congressionally Mandated Projects	\$3,929.8	\$0.0	\$0.0	\$0.0
Homeland Security: Preparedness, Response, and Recovery	\$686.3	\$2,327.4	\$2,339.8	\$12.4
Categorical Grant: Lead	\$15,137.6	\$13,700.0	\$13,700.0	\$0.0
Commission for Environmental Cooperation	\$304.4	\$393.8	\$417.1	\$23.3
Pesticides: Registration of New Pesticides	\$42,458.9	\$35,981.6	\$45,310.2	\$9,328.6
Pesticides: Review / Reregistration of Existing Pesticides	\$50,922.0	\$64,314.4	\$60,471.0	(\$3,843.4)
POPs Implementation	\$2,090.9	\$2,224.4	\$2,235.4	\$11.0
State and Local Prevention and Preparedness	\$10,273.0	\$12,508.1	\$12,134.8	(\$373.3)
Toxic Substances: Chemical Risk Management	\$10,464.4	\$9,243.1	\$9,514.2	\$271.1
Toxic Substances: Chemical Risk Review and Reduction	\$42,212.4	\$45,536.2	\$45,878.8	\$342.6
Toxic Substances: Lead Risk Reduction Prgm	\$11,263.0	\$14,832.9	\$11,082.6	(\$3,750.3)
TRI / Right to Know	\$14,687.6	\$14,690.6	\$15,940.9	\$1,250.3
International Capacity Building	\$2,109.8	\$1,541.2	\$1,804.7	\$263.5
Administrative Projects	\$110,780.6	\$115,049.7	\$128,989.7	\$13,940.0
TOTAL	\$345,298.1	\$364,126.3	\$383,305.4	\$19,179.1

ANNUAL PERFORMANCE GOALS AND MEASURES**GOAL: HEALTHY COMMUNITIES AND ECOSYSTEMS****OBJECTIVE: CHEMICAL, ORGANISM, AND PESTICIDE RISKS****Annual Performance Goals and Measures****Decrease Risk from Agricultural Pesticides**

- In 2005 Ensure new pesticide registration actions (including new active ingredients, new uses) meet new health standards and are environmentally safe.
- In 2005 Percentage of acre treatments that will use applications of reduced-risk pesticides
- In 2004 Decrease adverse risk from agricultural uses from 1995 levels.
- In 2003 124 safer chemicals and biopesticides were registered, 72 new chemicals were registered, and 425 new uses were registered. Date for acre-treatments is expected in 2004.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Register safer chemicals and biopesticides	124	131	135	Regist. (Cum)
New Chemicals (Active Ingredients)	72	74	84	Regist. (Cum)
New Uses	425	3,079	3,479	Actions (Cum)
Percentage of acre-treatments with reduced risk pesticides	Data lag	8.5%	8.7%	Acre- Treatments
Maintain timeliness of S18 decisions			45	Days
Reduce registration decision times for new conventional chemicals			7%	Reduction
Reduce registration decision times for reduced risk chemicals			3%	Reduction

Baseline: The baseline for registration of reduced risk pesticides, new chemicals, and new uses, 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, as reported by Doane Marketing Research, Inc. serves 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. As of 2003, there are no products registered for use against other potential bio-agents (non-anthrax). Conventional pesticides FY 2002 baseline for reducing decision time is 44 months; reduced risk pesticides FY 2002 baseline for reducing time is 32.5 months. The 2005 baseline for expedited new active ingredient pesticides is 4. The S18 2005 baseline is 45 days.

Reduce use of highly toxic pesticides

- In 2005 Decrease occurrence of residues of carcinogenic and cholinesterase-inhibiting neurotoxic pesticides on foods eaten by children from their average 1994-1996 levels
- In 2004 Decrease occurrence of residues of carcinogenic and cholinesterase-inhibiting pesticides on foods eaten by children from their average 1994-1996 levels.

In 2003 Data available in 2004.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
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 lag	25%	27%	Reduced Detections

Baseline: Percent occurrence of residues of FQPA priority pesticides (organophosphates and carbamates) on samples of children's foods in baseline years 94-96. Baseline percent is 33.5% of composite sample of children's foods: apples, apple juice, bananas, broccoli, carrots, celery, grapes, green beans (fresh, canned, frozen), lettuce, milk, oranges, peaches, potatoes, spinach, sweet corn (canned and frozen), sweet peas (canned and frozen), sweet potatoes, tomatoes, and wheat.

Reassess Pesticide Tolerances

In 2005 Ensure that through ongoing data reviews, pesticide active ingredients, and 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 the Native Americans

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.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Tolerance Reassessment	68%	78%	87.7%	Tolerances (Cum)
Reregistration Eligibility Decisions (REDs)	75%	81.7%	88.2%	Decisions (Cum)
Product Reregistration	306	750	400	Actions
Tolerance reassessments for top 20 foods eaten by children	65.6%	83%	93%	Tolerances (Cum)
Number of inert ingredients tolerances reassessed		100	100	tolerances
Reduce decision time for REDs			7%	Reduction

Baseline: The baseline value for tolerance reassessments is the 9,721 tolerances that must be reassessed by 2006 using FQPA health and safety standards. The baseline for REDs is the 612 REDs that must be completed by 2008. The baseline for inerts tolerances is 870 that must be reassessed by 2006. The baseline for the top 20 foods eaten by children is 893 tolerances that must be reassessed by 2006. Tribal Pilot of 2 models in FY 2003; total number of models to be determined (current estimate is 16-18). Reregistration decision time baseline 38-40 months.

Testing of Chemicals in Commerce for Endocrine Disruption

In 2005 Standardization and validation of screening assays

In 2004 Standardization and validation of screening assays

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Screening Assays Completed		11	11	Screening assay

Baseline: The non-prioritized universe of chemicals that needs to be considered for prioritization includes: pesticide active ingredients, pesticide inert ingredients, chemicals on the TSCA Inventory, environmental contaminants, food additives, pharmaceuticals, cosmetics, nutritional supplements, and representative mixtures. "Priority-setting" refers to the determination of priorities for entry into Tier 1 Screening. 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.

Process and Disseminate TRI Information - OEI

In 2005 The increased use of the Toxic Release Inventory Made Easy (TRI-ME) will result in a total burden reduction of 5% for Reporting Year 2004 from Reporting Year 2003 levels.

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.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Percentage of TRI chemical forms submitted over the Internet using TRI-ME and the Central Data Exchange.	25	50	55	Percent

Baseline: 4.2 million hours for FY 2002.

Reduce Wildlife Incidents and Mortalities

In 2005 Reduce from 1995 levels the number of incidents involving mortalities to nontargeted terrestrial and aquatic wildlife caused by pesticides

In 2004 Reduce Wildlife Incidents and Mortalities

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Number of incidents and mortalities to terrestrial and aquatic wildlife caused by the 15 pesticides responsible for the greatest mortality to such wildlife		5	11	reduction

Baseline: 80 reported bird incidents (involving 1150 estimated bird casualties); 65 reported fish incidents (involving 632,000 estimated fish casualties) as reported in 1995.

Exposure to Industrial / Commercial Chemicals

In 2005 Reduce exposure to and health effects from priority industrial / commercial chemicals

In 2004 Reduce exposure to and health effects from priority industrial / commercial chemicals

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Safe Disposal of Transformers		5,000	5,000	Transformers
Safe Disposal of Capacitors		9,000	9,000	Capacitors
number of children aged 1-5 years with elevated blood lead levels (>10 ug / dl)		270,000	225,000	children

Baseline: 1999/2000 baseline released in January 2003: Approximately 400,000 cases of childhood lead poisoning cases according to NHANES data. In 2004 a larger data set will be included as we will be expanding to include more EPA Regional efforts that will include all federally administered and State administered programs. Introduced the "number of children aged 1-5 years" measure in FY2004. Since the baseline is 1999/2000 data we are unable to project targets for 2004 and 2005 due to the data-lag. The FY2003 data for a new baseline may not be available until 2005. The baseline for PCB transformers is estimated at 2.2 million units and for capacitors is estimated at 1.85 million units as of 1988 as noted in the 1989 PCB Notification and Manifesting Rule. From 1991-2001 there was a declining trend in PCB disposal due to failing equipment and environmental liability: the total number of PCB large capacitors safely disposed of 436,485 and the total number of PCB transformers safely disposed of 172,672 as of 2002.

Risks from Industrial / Commercial Chemicals

- In 2005 Identify, restrict, and reduce risks associated with industrial/commercial chemicals.
- In 2004 Identify and reduce risks associated with international industrial/commercial chemicals.
- In 2004 Identify, restrict, and reduce risks associated with industrial/commercial chemicals.
- In 2003 Of the approximately 1,633 applications for new chemicals and microorganisms submitted by industry, ensure those marketed are safe for humans and the environment. Increased proportion of commercial chemicals that have undergone PMN review to signify they are properly managed and may be potential "green" alternatives to existing chemicals in commerce.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Number of TSCA Pre-Manufacture Notice Reviews	1,633	1,700		Notices
Make screening level health and environmental effects data publicly available for sponsored HPV chemicals		1,300		cum. chemicals
Reduction in the current year production-adjusted Risk Screening Environmental Indicators risk-based score of releases and transfers of toxic chemicals.		9%	12%	Index
High Production Volume chemicals with complete Screening Information Data Sets (SIDS) submitted to OECD SIDS Initial Assessment Meeting		75		chemicals
Percentage of chemicals identified as highest priority by the Acute Exposure Guideline Levels (AEGLs) Program with short-term exposure limits established.			52%	Total 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 of Notice of Commencement.) The baseline for HPV measure is zero chemicals in 1998. The baseline for the RSEI measure is the index calculated for 2001. Baseline is 2002; calculation methodology by addition of AEGL values (10 minute, 1 hour, 4 hour and 24 hour exposure periods) and numbers of chemicals addressed. There is a list maintained by the AEGL FACA committee of highest priority chemicals: 99 chemicals are on List 1 which was generated at the program's inception in 1996 and 137 chemicals are highest priority on List 2 which was generated in 2001. Therefore the total of highest priority chemical stands today at 236 chemicals, however chemicals can be added or deleted from the list to fit stakeholder needs which is why we have decided to provide percentage targets. 2001 levels will serve as the baseline reference point for the percent reduction in relative risk index for chronic human health associated with environmental releases of industrial chemicals in commerce as measured by Risk Screening Environmental Indicators Model analyzing results to date. Measurement Development Plans exist for HPV, VCCEP, and New Chemicals.

Chemical Facility Risk Reduction

In 2005 Protect human health, communities, and ecosystems from chemical risks and releases through facility risk reduction efforts and building community infrastructures.

In 2004 Protect human health, communities, and ecosystems from chemical risks and releases through facility risk reduction efforts and building community infrastructures.

In 2003 Data available in March 2004.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Number of risk management plan audits completed.	Data lag	400	400	audits

Baseline: By the end of FY 2001, 438 risk management plan audits were completed.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Performance Measure: Percentage of TRI chemical forms submitted over the Internet using the Toxic Release Inventory Made Easy (TRI-ME) and the Central Data Exchange (CDX).

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: Currently, the mail room determines whether a submission is on paper or a floppy disk during the normal process of entering and tracking submissions. Electronic submissions via CDX are automatically tracked by the software. With an increase in electronic reporting via CDX, the manual mail room processing will be significantly reduced. Information received via hard copy is double-key entered. During the facility reconciliation process, the data entered are checked to ensure submission identification is accomplished at no less than 99 % accuracy. Accuracy is defined as accurate identification of document type.

Data Quality Reviews: Each month the Data Processing Center conducts data quality checks to ensure 99 % accuracy of submission information captured in TRIS.

Data Limitations: Occasionally, some facilities send in their forms in duplicative formats (e.g., paper, floppy, and/or through CDX). All submissions are entered into TRIS. The Data Processing Center follows the procedures

outlined in the document "Dupe Check Procedures" to identify potential duplicate submissions. Submissions through CDX override duplicate submissions through disk and/or hard copy. Floppy disk submissions override duplicate paper copy submissions.

Error Estimate: The error rate for "submission-type" data capture has been assessed to be less than 1%. The quality of the data is high.

New/Improved Performance Data or Systems: EPA continues to identify enhancements in E-reporting capabilities via CDX.

References: www.epa.gov/TRI

FY 2005 Performance Measure: Percentage of acre treatments with reduced risk pesticides.

Performance Database: EPA uses an external database, Doane Marketing Research data, for this measure.

Data Source: Primary source is Doane Marketing Research, Inc. (a private sector research database).

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. Information is also compared to prior years for variations and trends as well as to determine the reasons for the variability.

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 (known disproportionality refers to a non proportional sample, which means individual respondents have different weights) and ensure consistency with USDA and state acreage estimates.

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 are subject to extensive QA/QC procedures, documented at their websites.

Data Quality Review: Doane data are subject to extensive internal quality review, documented at the website. EPA's statistical and economics staff review data from Doane. 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.

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.

New/Improved Data or Systems: These are not EPA databases; thus improvements are not known in any detail at this time.

References: EPA Website; EPA 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.

FY 2005 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. Information is coordinated by USDA agencies and cooperating state agencies.

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. 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.

This measure helps provide information on the effect of EPA's regulatory actions on children's health via reduction of pesticide residues on children's foods. The assumption is that through reduction of pesticide residues on these foods, children's exposure to pesticides will be reduced; thus, the risk to their health diminished. This measure contributes to the Agency's goal of protecting human health and is aligned with the Food Quality Protection Act (FQPA) mandate of protecting children's health.

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, there is a quality assurance (QA) unit which operates independently from the rest of the laboratory staff. QA Plans are followed as the standard procedure, with any deviations documented extensively. Final QA review is conducted 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. Additionally, analytical methods have been standardized in various areas including analytical standards, laboratory operations, data handling, instrumentation and QA/QC. With the exception of California, all samples of a commodity collected for PDP are forwarded to a single laboratory, allowing greater consistency, improved QA/QC and reduced sample loss. Program plans may be accessed at <http://www.ams.usda.gov/science/pdp/SOPs.htm>.

Data Quality Review: In addition to having extensive QA plans to ensure reliability of the data, the PDP follows EPA's Good Laboratory Practices in standard operating procedures. A QA committee composed of quality assurance officers is responsible for annual review of program SOPs and for addressing QA/QC issues. Quality assurance units at each participating laboratory operate independently from the laboratory staff and are responsible for day-to-day quality assurance oversight. Preliminary QA/QC review is done at each participating laboratory with final review performed by PDP staff for conformance with SOPs.

Data Limitations: Participation in the PDP is voluntary. Sampling is limited to ten 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 (See References).

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; Food Quality Protection Act (FQPA) 1996; <http://www.epahome/Standards.html>; <http://www.ams.usda.gov/science/pdp/SOPs.htm>.

FY 2005 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 tolerance/tolerance exemptions reassessed.**
- **Reduce decision times for REDs**

Performance Database: The OPPIN (Office of Pesticide Programs Information Network) consolidates various EPA program databases. It is maintained by the EPA and tracks regulatory data submissions and studies, organized

by scientific discipline, which are submitted by the registrant in support of a pesticide's reregistration. Additionally, manual counts of the registrations of reduced risk pesticides are kept as backup and quality control.

Data Source: EPA's Pesticides Program.

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.

Data Limitations: None known.

Error Estimate: N/A. There are no errors associated with count data.

New/Improved Data or Systems: The OPPIN, which consolidates various pesticides program databases, will contribute to reducing the processing time for reregistration actions.

References: EPA Website <http://www.epa.gov/pesticides> EPA Annual Report 2002 EPA Number 735-R-03-001; 2003 Annual Performance Plan

FY 2005 Performance Measure: 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 staff for 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 EPA's 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: EPA employs a process to ensure data quality for this measure which begins before entering an incident into the database. 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 pesticides programs. When resources allow incorporation of wildlife data from private organizations, such as the American Bird Conservancy, 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. Even so, if there is an increase in bird kills since the baseline year, it may be due to better tracking/reporting of kills rather than an increase or change in use of a pesticide.

New/Improved Data or Systems: The EPA 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 is expected to improve the quantity and quality of data in the EIIS database on avian incidents.

References: The Ecological Incident Information System (EIIS) is an internal EPA database. Federal Insecticide Fungicide and Rodenticide Act (FIFRA), Section 6(a)(2).

QMP: Quality Management Plan for the Office of Pesticides Program, May 20, 2000

FY 2005 Performance Measures:

- **Number of registrations of reduced risk pesticides registered (Register safer chemicals and biopesticides).**
- **Number of new (active ingredients) conventional pesticides registered (New Chemicals)(Cumulative).**
- **Number of conventional new uses registered (New Uses)(Cumulative).**
- **Number of new uses for previously registered antimicrobial products.**
- **Maintain timeliness of Section 18 Emergency Exemption Decisions.**
- **Reduce registration decision times for reduced risk chemicals**

Performance Database: The OPPIN (Office of Pesticide Programs Information Network) consolidates various pesticides program databases. It is maintained by the EPA and tracks regulatory data submissions and studies, organized by scientific discipline, which are submitted by the registrant in support of a pesticide's registration. Additionally, manual counts of the registrations of reduced risk pesticides are maintained for quality control

Data Source: Pesticide program 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 which when finalized, 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, such 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), which consolidates various pesticides program databases, will reduce the processing time for registration actions.

References: FIFRA Sec 3(c)(5); FFDCA Sec 408(a)(2); EPA Pesticide Registration Notice 97-3, September 4, 1997; Food Quality Protection Act (FQPA) 1996;

FY 2005 Performance Measure: Number of children aged 1-5 years with elevated blood lead levels (>10 ug/dL). *This is the level that CDC defines as 'elevated' and indicative of the need for intervention.*

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 is a coordinated program of studies designed to assess the health and nutritional status of adults and children in the U.S. The program began in the early 1960s and continues. The survey examines a nationally representative sample of approximately 5,000 people each year located across the U.S.

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 polyaromatic 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 has published both the "National Report on Human Exposure to Environmental Chemicals," (March 2001) and the "Second National Report on Human Exposure to Environmental Chemicals" (January 2003), which reflect findings from NHANES, including the body burden of lead and other pollutants measured in the blood stream or urine. These reports provide ongoing surveillance of the U.S. population's exposure to environmental chemicals. The 2001 report provides measurements of exposure to 27 chemicals based on blood and urine samples from people participating in NHANES 1999. The 2003 Report expands 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 additional details on exposure 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 both public health officials and regulators in analyzing: 1) trends over time; 2) the effectiveness of public health efforts; and 3) 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 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 has moved 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: "National Report on Human Exposure to Environmental Chemicals," (NCEH Publication Number 01-0164, Atlanta, GA: March 2001), [On the web at <http://www.cdc.gov/nchs/nhanes.htm> or <http://www.cdc.gov/nceh/dls/report/>]; more extensive findings from NHANES are in the "Second National Report on Human Exposure to Environmental Chemicals" (NCEH Publication Number 03-0022: Atlanta, GA January 2003) [On the web at [<http://www.cdc.gov/nchs/nhanes.htm>, or <http://www.cdc.gov/exposurereport/>].

FY 2005 Performance Measure: Reduce the potential for risks from leaks and spills by ensuring the safe disposal of large capacitors and transformers containing polychlorinated biphenyls (PCBs).

Performance Database: PCB Annual Report Database.

Data Source: Annual Reports from commercial storers and disposers of PCB Waste.

Methods, Assumptions, and Suitability: Data provide a baseline for the amount of safe disposal of PCB waste annually. By ensuring safe disposal of PCBs in equipment such as transformers and capacitors coming out of service, and contaminated media such as soil, and structures from remediation activities, the Agency is reducing the exposure risk of PCBs that are either already in the environment or may be released to the environment through spills or leaks.

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, of PCB concentrations 50 to 499 parts per million (ppm), 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 do provide the only estimate of the amount of PCB waste disposed annually.

Error Estimate: N/A

New/Improved Data or Systems: None

References: U.S. EPA, Office of Pollution Prevention and Toxics, National Program Chemicals Program, PCB Annual Report for Storage and Disposal of PCB Waste.

FY 2005 Performance Measure: Percent reduction in relative risk index for chronic human health associated with environmental releases of industrial chemicals in commerce as measured by Risk Screening Environmental Indicators (RSEI) Model.

Performance Database: The RSEI Model 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, the U.S. Census, and many other sources. Due to a TRI data lag, performance data will be unavailable for this measure when the FY 2005 Annual Performance Report is prepared. The data will be available for the FY 2007 report.

Data Source: The wide variety of data used within RSEI were collected by Federal Agencies (U.S. Census Bureau, EPA, U.S. Geological Survey, Commerce Dept. – National Oceanographic Atmospheric Administration, Dept. of Interior - U.S. Fish and Wildlife), state agencies (air emissions and stack data, fishing license data), and research organizations (Electric Power Research Institute (EPRI), etc.) 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 unitless (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 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: EPA 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 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, OPPT has performed numerous Q/C checks on various types of data. For instance, locational data for on-site and off-site facilities have been checked and corrected, and this information is being supplied to the Office of Environmental Information (OEI) and the Envirofacts database.

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 and managed by the providers of the data sources. RSEI includes data from the Toxics Release Inventory (TRI), Integrated Risk Information System (IRIS), Health Effects Assessment Summary Tables (HEAST), U.S. 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 (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>).

The RSEI model has undergone continuous upgrading since the 1997 SAB Review. Toxicity weighting methodology was completely revised and subject to a second positive review by SAB (in collaboration with EPA’s Civil Rights program); air methodology was revised and ground-truthed using New York data to demonstrate high confidence; water methodology has been revised in collaboration with EPA’s Water program. When the land methodology has been reviewed and revised, EPA will have completed its formal, written response to the 1997 SAB Review.

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 companies. 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 is on a highly polluted stream reach, this approach would underestimate risk by distributing the drinking water population to less-polluted reaches. In coastal areas, Publicly Owned Treatment Works (POTW) water releases may go directly to the ocean, rather than nearby streams. EPA is in the process of systematically correcting potential errors regarding POTW water 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: The program regularly tracks improvements in other Agency databases (e.g., SDWIS and Reach File databases) and incorporates 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 provided this and other technical documentation on the RSEI Home Page. The Agency is revising the existing methodology documents concurrent with the second beta release of RSEI Version 2.0. [RSEI Home Page - www.epa.gov/oppt/env_ind/]

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>

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 (http://www.epa.gov/opptintr/rsei/docs/users_manual.pdf).

A more general overview of the model can be found in the RSEI Fact Sheet (PDF, 23 KB) (http://www.epa.gov/opptintr/rsei/docs/factsheet_v2-1.pdf).

There are also seven Technical Appendices that accompany these two documents and provide additional information on the data used in the model. The Appendices are as follows:

Technical Appendix A (PDF, 121 KB) - Listing of All Toxicity Weights for TRI Chemicals and Chemical Categories

Technical Appendix B (PDF, 290 KB) - Physicochemical Properties for TRI Chemicals and Chemical Categories

Technical Appendix C (PDF, 40 KB) - Derivation of Model Exposure Parameters

Technical Appendix D (PDF, 71 KB) - Locational Data for TRI Reporting Facilities and Off-site Facilities

Technical Appendix E (PDF, 44 KB) - Derivation of Stack Parameter Data

Technical Appendix F (PDF, 84KB) - Summary of Differences Between RSEI Data and TRI Public Data Release

FY 2005 Performance Measure: Establish short-term exposure limits for 52 percent of chemicals identified as highest priority by the Acute Exposure Guideline Levels (AEGL) Program.

Performance Database: Performance is measured by the cumulative number of chemicals with “Proposed”, “Interim”, and/or “Final” AEGL values.

Data Source: EPA manages a Federal Advisory Committee Act (FACA) committee that reviews short term exposure values for extremely hazardous chemicals. The supporting data, from both published and unpublished sources and from which the AEGL values are derived, are collected, evaluated, and summarized by FACA Chemical Managers and Oak Ridge National Laboratory’s scientists. Proposed AEGL values are published for public comment in the Federal Register. After reviewing public comment, interim values are presented to the AEGL Subcommittee of the National Academies of Sciences (NAS) for review and comment. After review and comment resolution, the National Research Council under the auspices of the National Academies of Sciences (NAS) publishes the values as final.

Methods, Assumptions, and Suitability: The work of the National Advisory Committee’s Acute Exposure Guideline Levels (NAC/AEGL) adheres to the 1993 U.S. National Research Council/National Academies of Sciences (NRC/NAS) publication *Guidelines for Developing Community Emergency Exposure Levels for Hazardous Substances*. NAC/AEGL, in cooperation with the National Academy of Sciences’ Subcommittee on AEGLs, have developed standard operating procedures (SOPs), which are followed by the program. These have been published by the National Academies Press and are referenced below.

AEGL values approved as “proposed” and “interim” by the NAC/AEGL FACA Committee and “final” by the National Academies of Sciences represent the measure of the performance. The work is assumed to be completed at the time of final approval of the AEGL values by the NAS.

QA/QC Procedures: QA/QC procedures include public comment via the Federal Register process, review and approval by the FACA committee, and review and approval by the NAS/AEGL committee and their external reviewers.

Data Quality Review: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: This is the first time acute exposure values for extremely hazardous chemicals have been established according to a standardized process and put through such a rigorous review.

References: Standing Operating Procedures for Developing Acute Exposure Guideline Levels for Hazardous Chemicals, National Academy Press, Washington, DC 2001 (<http://www.nap.edu/books/030907553X/html/>).

FY 2005 Performance Measure: Number of risk management plan audits completed

Performance Database: There is no database for this measure.

Data Source: EPA's Regional offices and the states provide the data to EPA headquarters.

Methods, Assumptions and Suitability: Data are collected and analyzed by surveying EPA's Regional offices to determine how many audits of 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' levels.

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.

Error Estimate: Not calculated.

New/Improved Data or Systems: N/A

Reference: N/A

STATUTORY AUTHORITIES

1909 Boundary Waters Agreement
1978 U.S./Canada Great Lakes Water Quality Agreement
1989 US/USSR Agreement on Pollution
1991 U.S./Canada Air Quality Agreement
1996 Habitat Agenda, paragraph 43bb
Chemical Safety Information, Site Security and Fuels Regulatory Relief Act
Clean Air Act (CAA)
Clean Water Act (CWA) (33 U.S.C. 1251_1387)
Emergency Planning and Community Right-To-Know Act
Endangered Species Act
Federal Food, Drug and Cosmetic Act (FFDCA)
Federal Fungicide, Insecticide and Rodenticide Act (FIFRA)
Food Quality Protection Act (FQPA) of 1996
North American Agreement on Environmental Cooperation (NAAEC)
North American Free Trade Agreement
Pollution Prevention Act
Resource Conservation and Recovery Act (RCRA)
Section 112r, Accidental Release Provisions of the Clean Air Act Amendments of 1990
Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986
Toxic Substances Control Act (TSCA)
U.S./Canada Agreements on Arctic Cooperation
World Trade Organization Agreements

OBJECTIVE: Communities

Sustain, clean up, and restore communities and the ecological systems that support them.

Resource Summary
(Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Communities	\$313,167.7	\$317,572.9	\$319,958.4	\$2,385.4
Environmental Program & Management	\$64,392.8	\$83,379.9	\$85,676.7	\$2,296.80
Hazardous Substance Superfund	\$2,324.5	\$1,031.4	\$1,039.9	\$8.50
Science & Technology	\$75.1	\$0.0	\$0.0	\$0.00
State and Tribal Assistance Grants	\$243,985.7	\$230,500.0	\$230,500.0	\$0.00
Building and Facilities	\$744.1	\$666.8	\$721.7	\$54.9
Inspector General	\$1,645.5	\$1,994.9	\$2,020.1	\$25.2
Total Workyears	327.5	372.0	369.6	(2.4)

Program Project
(Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Children and other Sensitive Populations	\$3,074.7	\$6,710.4	\$6,801.1	\$90.7
Congressionally Mandated Projects	\$140.8	\$0.0	\$0.0	\$0.0
Commission for Environmental Cooperation	\$4,069.6	\$3,544.0	\$3,531.7	(\$12.3)
Categorical Grant: Brownfields	\$48,605.7	\$60,000.0	\$60,000.0	\$0.0
Brownfields	\$22,613.4	\$27,820.6	\$28,002.3	\$181.7
Environment and Trade	\$1,769.6	\$1,702.6	\$1,723.1	\$20.5
Environmental Justice	\$3,813.9	\$5,044.3	\$5,130.5	\$86.2
Geographic Program: Other	\$0.0	\$0.0	\$2,000.0	\$2,000.0
Infrastructure Assistance: Brownfields Projects	\$81,953.4	\$120,500.0	\$120,500.0	\$0.0
Infrastructure Assistance: Mexico Border	\$113,426.6	\$50,000.0	\$50,000.0	\$0.0
Regulatory Innovation	\$6,724.4	\$2,541.2	\$2,642.7	\$101.5
US Mexico Border	\$4,967.7	\$6,484.4	\$5,784.8	(\$699.6)
Regional Geographic Initiatives	\$0.0	\$8,755.7	\$8,799.5	\$43.8
Administrative Projects	\$22,007.9	\$24,469.7	\$25,042.7	\$572.9
TOTAL	\$313,167.7	\$317,572.9	\$319,958.4	\$2,385.4

ANNUAL PERFORMANCE GOALS AND MEASURES**GOAL: HEALTHY COMMUNITIES AND ECOSYSTEMS****OBJECTIVE: COMMUNITY HEALTH****Annual Performance Goals and Measures****U.S. - Mexico Border Water/Wastewater Infrastructure**

In 2005	In the US-Mexico Border Region, sustain and restore community health, and preserve the ecological systems that support them
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.

Performance Measures:	FY 2003 Enacted	FY 2004 Pres. Bud.	FY 2005 Request 1.5 Million	People
People in the Mexico border area protected from health risks because of adequate water and wastewater sanitation systems funded through the Border Environmental Infrastructure Fund.				
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.	900,000	990,000		People

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 of the international border. More than 11.8 million people reside along the border and this figure is expected to increase to 19.4 million by 2020. Ninety percent of the population reside in the 14 impaired, 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 treatment facilities. EPA, other US Federal agencies, and the Government of Mexico have partnered to address these environmental problems.

World Trade Organization - Regulatory System

In 2005 Assist trade partner countries in completing environmental reviews

Performance Measures:	FY 2003 Enacted	FY 2004 Pres. Bud.	FY 2005 Request 3	Countries
Number of environmental reviews initiated by FTAA countries following the enactment of the 2002 Trade Promotion Act (TPA).				

Baseline: As of the end of FY 2003, two environmental reviews (Chile and Singapore) have been initiated since the enactment of the 2002 Trade Promotion Act.

Revitalize Properties

In 2005	Leverage jobs by assessing, promoting the cleanup and reuse of brownfields properties.
In 2004	Leverage 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	Leverage jobs through revitalization efforts.
In 2003	Leverage or generate \$0.9 B through revitalization efforts.

Performance Measures:	FY 2003 Enacted 472 (qtr 3)	FY 2004 Pres. Bud. 1,000	FY 2005 Request 1,000	
Number of Brownfields properties assessed.				assessments
Number of Brownfields cleanup grants awarded.		25	25	grants
Number of properties cleaned up using Brownfields funding.		no target	60	properties
Estimated number of Brownfield property acres available for reuse or continued use.		no target	no target	acres
Number of jobs leveraged from Brownfields activities.	1,202 (qtr 3)	2,000	5,000	jobs
Number of Brownfields job training participants trained.		200	200	participants
Percentage of Brownfields job training trainees placed.	62% (qtr 3)	65%	65%	trainees placed
Amount of cleanup and redevelopment funds leveraged at Brownfields sites.	\$0.3B (qtr 3)	\$0.9B	\$1.0B	funds
Number of Tribes supported by Brownfields cooperative agreements.			no target	Tribes

Baseline: By the end of FY 2002, the Brownfields program had leveraged 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.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Performance Measure:

- Number of Brownfields properties assessed.
- Number of jobs leveraged from Brownfields activities.
- Number of properties cleaned up using Brownfields funding.
- 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
 RLF - Number of Properties with cleanup activities completed using Brownfields Cleanup Revolving Loan Fund funds.

Data Source: Data are extracted from quarterly reports prepared by Cooperative Agreement Award Recipients

Methods, Assumptions and Sustainability: Cooperative Agreement Award Recipients submit reports quarterly on project progress. Data on performance measures are extracted from quarterly reports by an EPA contractor. Afterwards, data are forwarded to Regional Pilot managers for review and finalization.

“Number of jobs leveraged 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” based on the “Number of Participants Completing Training” and the “Number of Participants Obtaining Employment.”

“Number of properties cleaned up using Brownfields funding” is the aggregate of “Number of Properties with cleanup activities completed using BCRLF funds” and the number of properties cleaned up using cleanup grant funding (to be included in amended database. See “New and Improved Data or Systems”).

QA/QC Procedures: Data reported by cooperative award agreement recipients are reviewed by EPA Regional pilot managers for accuracy and to ensure appropriate interpretation of key measure definitions. Reports are produced monthly with detailed data trends analysis.

Data Quality Reviews: No external reviews.

Data Limitations: All data provided voluntarily.

Error Estimate: NA

New/Improved Data or Systems: The Brownfields Management System (BMS) has been migrated to an oracle platform and is currently being modified to include all reporting elements required in grantee terms and conditions. Key field definitions will be updated.

References: NA

FY 2005 Performance Measure: People in the Mexico border area connected to potable water and wastewater collection and treatment systems (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 A population –served by potable water and wastewater collection and treatment systems.

Data Source: 1) U.S. population figures from the 2000 U.S. Census [**Reference A, below**]; 2) Data on U.S. and Mexican populations served by A certified@ water/wastewater treatment improvements from the BECC; 3) Data on projects funded from the NADBank.

Methods, Assumptions and Suitability: Summation of population 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 reported. [**Reference B**]

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:

A. 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).

B. Border Environment Cooperation Commission (BECC), Cd Juarez, Chih, and North American Development Bank (NADBank), (San Antonio, TX, 2002).

FY 2005 External Performance Measure: Assist trade partner countries in completing environmental reviews.**Performance Database:** None- Manual Collection**Data Source:** Project / Trade Agreement 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.

Validating measurements under international 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. 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.

EPA works with its trading partners on capacity building projects, which establish the framework and tools to ensure increased trade does not degrade the environment and harm human health. Projects will help prevent pollution at the source, and will be tailored to partner-country needs and be built on past US assistance. Tracking development and implementation of these projects presents few challenges because EPA project staff maintains close contact with their counterparts and any changes become part of a public record. Assessing the effectiveness of these projects or the inclusion of environmental provisions in trade agreements is more subjective. Aside from feedback from Agency project staff, EPA relies, in part, on feedback from its trading partners in the target countries and regions and from non-governmental organizations (NGOs) and other third parties. Because EPA works to establish long-term relationships with its trading partners, the Agency is often able to assess environmental improvements in these countries and regions for a number of years following implementation of the trade agreement.

STATUTORY AUTHORITIES

Annual Appropriations Act

Clean Air Act

Clean Water Act

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Small Business Liability Relief and Brownfields Revitalization Act (SBLRBRA) (Public Law 107-118).

Computer Security Act

Congressional Review Act

Congressional Review Act

Contract law

CPRKA of 1986

Emergency Planning and Community Right-to-Know Act (EPCRA) section 313 (42 U.S.C. 110001-11050)

Emergency Planning and Community Right-to-Know Act (EPCRA) section 313 (42 U.S.C. 110001-11050)

Enterprise for the Americas Initiative Act (7 U.S.C. 5404)

Environmental Research, Development, and Demonstration Act (ERDDA) of 1981

EPA's Assistance Regulations

EPA's Environmental Statutes

Executive Order 12866

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

Executive Order 13148, "Greening the Government through Leadership in Environmental Management"

Federal Acquisition Regulations

Federal Advisory Committee Act (FACA) (5 U.S.C. App.)

Federal Food, Drug and Cosmetic Act (FFDCA)

Federal Grant and Cooperative Agreement Act

Federal Insecticide, Fungicide, and Rodenticide Act

Federal Managers Financial Integrity Act (FMFIA)
Food Quality Protection Act (FQPA)
Freedom of Information Act (FOIA) (5 U.S.C. 552)
Government Management Reform Act (1990)
Government Paperwork Elimination Act (GPEA)
National Environmental Education Act
National Environmental Policy Act
North American Agreement on Environmental Cooperation
North American Agreement on Environmental Cooperation
North American Free Trade Agreement
Paperwork Reduction Act Amendment of 1995 (44 U.S.C. 3501-3520)
Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)
PPA (42 U.S.C. 13101-13109)
Privacy Act
Regulatory Flexibility Act
Resource Conservation and Recovery Act (RCRA) 8001.
Safe Drinking Water Act
Small Business Regulatory Enforcement Fairness Act
Toxic Substance Control Act section 14 (TSCA) (15 U.S.C. 2601-2692)
Toxic Substances Control Act
Trade Act of 2002 (TPA)
Unfunded Mandates Reform Act
World Trade Organization Agreements

OBJECTIVE: Ecosystems

Protect, sustain, and restore the health of natural habitats and ecosystems.

Resource Summary
(Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Ecosystems	\$171,169.4	\$160,698.1	\$200,844.5	\$40,146.5
Environmental Program & Management	\$142,880.5	\$119,336.0	\$154,173.6	\$34,837.6
Buildings & Facilities	\$325.5	\$386.5	\$422.6	\$36.1
State & Tribal Assistance Grants	\$27,146.2	\$40,000.0	\$45,000.0	\$5,000.0
Inspector General	\$817.2	\$975.6	\$1248.4	\$272.8
Total Workyears	546.0	384.8	390.8	5.9

Program Project
(Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Congressionally Mandated Projects	\$16,157.3	\$0.0	\$0.0	\$0.0
Geographic Program: Other	\$5,731.7	\$4,762.5	\$4,789.7	\$27.2
Regional Geographic Initiatives	\$6,855.9	\$0.0	\$0.0	\$0.0
Categorical Grant: Wetlands Program Development	\$14,206.2	\$20,000.0	\$20,000.0	\$0.0
Categorical Grant: Targeted Watersheds	\$12,940.0	\$20,000.0	\$25,000.0	\$5,000.0
Geographic Program: Chesapeake Bay	\$21,755.2	\$20,777.7	\$20,816.6	\$38.9
Geographic Program: Great Lakes	\$16,810.7	\$18,104.2	\$21,194.8	\$3,090.6
Geographic Program: Gulf of Mexico	\$4,383.0	\$4,431.7	\$4,477.8	\$46.1
Geographic Program: Lake Champlain	\$2,666.6	\$954.8	\$954.8	\$0.0
Geographic Program: Long Island Sound	\$2,225.5	\$477.4	\$477.4	\$0.0
Great Lakes Legacy Act	\$0.0	\$15,000.0	\$45,000.0	\$30,000.0
National Estuary Program / Coastal Waterways	\$22,712.0	\$19,094.2	\$19,229.3	\$135.1
Wetlands	\$17,129.2	\$19,299.9	\$19,752.8	\$452.9
Administrative Projects	\$27,596.1	\$17,795.7	\$19,151.3	\$1,355.7
TOTAL	\$171,169.4	\$160,698.1	\$200,844.5	\$40,146.5

ANNUAL PERFORMANCE GOALS AND MEASURES**GOAL: HEALTHY COMMUNITIES AND ECOSYSTEMS****OBJECTIVE: ECOSYSTEMS****Protecting and Enhancing Estuaries**

In 2005 Working with NEP partners, protect or restore an additional 25,000 acres of habitat within the study areas for the 28 estuaries that are part of the National Estuary Program (NEP).

In 2004 Restore and protect estuaries through the implementation of Comprehensive Conservation and Management Plans (CCMPs).

In 2003 Restored and protected estuaries through the implementation of Comprehensive Conservation and Management Plans (CCMPs).

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Acres of habitat restored and protected nationwide as part of the National Estuary Program. (incremental)	118,171	25,000	25,000	Acres

Baseline: As of January 2000, there were over 600,000 acres of habitat preserved, restored, and/or created.

Gulf of Mexico

In 2005 Prevent water pollution and protect aquatic species in order to improve the health of the 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 Assisted the Gulf States in implementing watershed restoration actions in 14 priority impaired coastal river and estuary segments.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Impaired Gulf coastal river and estuary segments implementing watershed restoration actions (incremental).	95	71/5 yr rollavg		Segments
Reduce releases of nutrients throughout the Mississippi River Basin that affect the size of the hypoxic zone in the Gulf of Mexico, as measured by the five year running average			Less than 14,128	KM2

Baseline: There are 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. The 1996-2000 running average size = 14,128 km2.

Wetland and River Corridor Projects

In 2005 Working with partners, achieve a no net loss of wetlands.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Annually, in partnership with the Corps of Engineers and States, achieve no net loss of wetlands in the Clean Water Act section 404 regulatory program			No Net Loss	Acres
Working with partners, achieve no net loss of wetland acres			No Net Loss	Acres

Baseline: Annual net loss of an estimated 58,500 acres. In partnership with the Corps of Engineers, a baseline and initial reporting will begin in FY 2004 on net loss of wetlands in the CWA Section 404 regulatory programs.

Great Lakes Assessment and Implementation Actions

In 2005 Prevent water pollution and protect aquatic systems so that overall ecosystem health of the Great Lakes is improved by at least 1 point.

In 2004 Great Lakes ecosystem components will improve, including progress on fish contaminants, beach closures, air toxics, and trophic status.

In 2003 End of year data will be available in 2004 to verify that Great Lakes ecosystem components have improved, including progress on fish contaminants, beach closures, air toxics, and trophic status.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud. Data Lag	FY 2005 Pres. Bud. 5%	
Long-term concentration trends of toxics (PCBs) in Great Lakes top predator fish.				Annual decrease
Long-term concentration trends of toxic chemicals in the air.		Data Lag	7%	Annual decrease
Total phosphorus concentrations (long-term) in the Lake Erie Central Basin.		18.4	10	Ug/l
Average concentrations of PCBs in whole lake trout and walleye samples will decline.			5%	Annual Decrease
Average concentrations of toxic chemicals in the air in the Great Lakes basin will decline			5%	Annual Decrease
Restore and delist Areas of Concern (AOCs) within the Great Lakes basin			3	AOC
Cubic yards (in millions) of contaminated sediment remediated in the Great Lakes (cumulative from 1997).			2.9	Cubic Yards/M

Baseline: In 2003, Great Lakes rating of 20 on a 40 point scale where the rating uses select Great Lakes State of the Lakes Ecosystem indicators based on a 1 to 5 rating system for each indicator, where 1 is poor and 5 is good. The trend (starting with 1972 data) for toxics in Great Lakes top predator fish 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. In 2002, no Areas of Concern had been delisted. 2.1 million yards of remediated sediments are the cumulative number of yards from 1997 - 2001.

Chesapeake Bay Habitat

In 2005 Prevent water pollution and protect aquatic systems so that overall aquatic system health of the Chesapeake Bay is improved enough so that there are 91,000 acres of submerged aquatic vegetation. (cumulative)

In 2005 Reduce nitrogen loads by 74 million pounds per year; phosphorus loads by 8.7 million pounds per year, and sediment loads by 1.06 million tons per year from entering the Chesapeake Bay, from 1985 levels

In 2004 Improve habitat in the Chesapeake Bay.

In 2003 Improved habitat in the Chesapeake Bay.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud. 74/8.7/1.06	
Reduction, from 1985 levels, of nitrogen (M/lbs), phosphorus (M/lbs), and sediment loads (tons) entering Chesapeake Bay. (cumulative)				Lbs/Lbs/Tons
Acres of submerged aquatic vegetation (SAV) present in the Chesapeake Bay. (cumulative)	89,659	90,000	91,000	Acres

Baseline: In 1984, there were 37,000 acres of submerged aquatic vegetation in the Chesapeake Bay. In 2002, baseline for nitrogen loads was 51 million pounds per year; phosphorus loads was 8.0 million pounds per year; and sediment loads was 0.8 million tons per year.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Performance Measure: Acres of habitat restored and protected nationwide 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, in an educational fashion with graphics and images, highlights habitat loss/alteration, 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 suitable measure of on-the-ground progress. 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 of 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 is 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 (e.g., 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 2005 Performance Measure: Annually, beginning in FY04 and in partnership with the Corps of Engineers and states, achieve no net loss of wetlands in the Clean Water Act Section 404 regulatory program.

Performance Database: Since 1989, the goal of the Clean Water Act Section 404 program has been no net loss of wetlands.

Historically, the Corps has collected limited data on wetlands losses and gains in its RAMS permit tracking database. The Corps has compiled national Section 404 wetland permitting data for the last 10 years reflecting wetland acres avoided (through the permit process), permitted for impacts, and mitigated.

Corps national data for the last 10 years (1993-2002):

- 44,000 acres mitigated/year
- 6,000 acres avoided/year

= Total of 50,000 acres/year of wetlands offset or preserved while allowing for development activities (approximately 24,000 acres of impacts authorized per year).

Data Source: Data included in RAMS is generally collected by private consultants hired by permit applicants or Corps Regulatory Staff. Data input is generally done by Corps staff.

Methods, Assumptions and Suitability: RAMS was designed to be an administrative aid in tracking permits, thus it lacks many of the fields necessary to adequately track important information regarding wetland losses and gains. Also, the database was modified differently for each of the 38 Corps Districts making national summaries difficult. Furthermore, the database is also proprietary making it difficult to retrofit without utilizing its original developers.

QA/QC Procedures: Historically, there has not been a high level of QA/QC with regard to data input into RAMS. Its antiquated format and numerous administrative fields discourage use. Lack of standard terms and classification also make all aspects of data entry problematic.

Data Quality Reviews: Independent evaluations published in 2001 by the National Academy of Sciences (NAS) and the General Accounting Office (GAO) provided a critical evaluation of the effectiveness of wetlands compensatory mitigation (the restoration, creation, or enhancement of wetlands to compensate for permitted wetland losses) for authorized losses of wetlands and other waters under Section 404 of the Clean Water Act. The NAS determined that available data was insufficient to determine whether or not the Section 404 program was meeting its goal of no net loss of either wetland area or function. The NAS added that available data suggested that the program was not meeting its no net loss goal. Among its suite of recommendations, the NAS noted that wetland area and function lost and regained over time should be tracked in a national database and that the Corps should expand and improve quality assurance measures for data entry.

In response to the NAS, GAO, and other recent critiques of the effectiveness of wetlands compensatory mitigation, EPA and the Corps in conjunction with the Departments of Agriculture, Commerce, Interior, and Transportation released the National Wetlands Mitigation Action Plan on December 26, 2002. The Plan includes 17 tasks that the agencies will complete over the next three years to improve the ecological performance and results of compensatory mitigation.

One of the major goals articulated in the 2002 interagency National Wetlands Mitigation Action Plan (MAP) is improving data collection and availability (including tracking and reporting on acreage and function gains and losses). MAP includes three action items the agencies will complete over the next two years that will improve their ability to track and report on wetlands gains and losses. Additional details of the milestones shown below are contained in the MAP: <http://www.epa.gov/owow/wetlands/guidance/index.html#mitigation>.

- The Corps, EPA, USDA, DOI, and NOAA, in conjunction with states and Tribes, compiling and disseminating information regarding existing mitigation-tracking database systems in FY04.
- Building upon the analysis of existing mitigation data base systems, the Corps, EPA, USDA, DOI, and NOAA will establish a shared mitigation database by FY05.
- Utilizing the shared database, the Corps, in conjunction with EPA, USDA, DOI, and NOAA, will provide an annual public report card on compensatory mitigation to complement reporting of other wetlands programs by FY05.

Data Limitations: As previously noted, RAMS currently provides the only national data on wetlands losses and gains in the Section 404 Program. Also, as previously noted, there are a number of concerns regarding the conclusions that can be drawn from these numbers. Data quality issues include:

1. Inability to separate restoration, creation, enhancement and preservation acreage from the aggregate "mitigation" acreage reported
2. Lack of data regarding how much designated mitigation acreage was actually undertaken, and how much of that total was successful

3. Lack of data regarding how much of the permitted impacts actually occurred, and
4. Limitations on identifying acres “avoided,” as the figure is only based on the difference between original proposed impacts and impacts authorized. Often, permit applicants who are aware of the 404 program’s requirements to avoid and minimize impacts to wetlands, make initial site selection and site design decisions that minimize wetland impacts prior to submitting a permit application. Such avoidance decisions benefit applicants, as their applications are more likely to be accepted and processed with minor changes. This behavioral influence that the program engenders is difficult to capture and quantify, but contributes considerable undocumented “avoided” impacts.

Error Estimate: Not applicable

New/Improved Data or Systems: The EPA and the Corps have acknowledged the need for improved 404 tracking. Corps is currently piloting a new national permit tracking database called ORM to replace its existing database (RAMS). As part of the MAP, the Corps is working with EPA and the other Federal agencies and states to ensure that the version of ORM that is ultimately deployed will adequately track wetlands gains and losses. ORM is being designed to provide improved tracking regarding:

- Type of impacts
- Type of habitat impacted (Using Hydrogeomorphic and Cowardin classification systems)
- Type of habitat mitigated (Using Hydrogeomorphic and Cowardin classification systems)
- Type of mitigation (restoration, creation, enhancement, or preservation)
- Amount of mitigation by type
- Differentiate stream mitigation (in linear feet) from wetlands mitigation (in acres)
- Spatial tracking via GIS for both impact and mitigation sites (*planned*)

References:

<http://www.epa.gov/owow/wetlands/guidance/index.html#mitigation>

FY 2005 Performance Measure: Prevent water pollution and protect aquatic ecosystems so that overall ecosystem health of the Great Lakes is improved.

Performance Database: US EPA’s Great Lakes National Program Office (GLNPO) will collect and track the components of the index and publish the performance results as part of annual reporting under the Government Performance and Results Act (GPRA) and as online reporting of GLNPO’s monitoring program, <http://epa.gov/glnpo/glindicators/index.html>. Extensive databases for the indicator components are maintained by GLNPO (phosphorus concentrations, contaminated sediments, benthic health, fish tissue contamination), by binational agreement with Environment Canada (air toxics deposition) or other entities (coastal wetlands), and by local authorities who provide data to EPA (drinking water quality, beach closures).

Data Source: Data for the index components are tracked internally and reported at the State of the Lakes Ecosystem Conferences (SOLEC). The document, “Implementing Indicators 2003-A Technical Report,” presents detailed indicator reports as prepared by primary authors (attending the conference), including references to data sources found in the summary document.

Methods, Assumptions, and Suitability: The Index is based on a 40 point scale where the rating uses select Great Lakes State of the Lakes Ecosystem indicators (i.e., coastal wetlands, phosphorus concentrations, Areas of Concern (AOC), sediment contamination, benthic health, fish tissue contamination, beach closures, drinking water quality, and air toxics deposition). Each component of the Index is based on a 1 to 5 rating system, where 1 is poor and 5 is good. Authors of SOLEC indicator reports use best professional judgment to assess the overall status of the ecosystem component in relation to established endpoints or ecosystem objectives, when available. Each of the index components is included in the broader suite of Great Lakes indicators, which was developed through an extensive multi-agency process to satisfy the overall criteria of necessary, sufficient and feasible. Information on the selection process is in the document, “Selection of Indicators for Great Lakes Basin Ecosystem Health, Version 4.”

QA/QC Procedures: GLNPO has an approved Quality Management system in place¹ that conforms to the EPA quality management order and is audited every 3 years in accordance with Federal policy for Quality Management.

Data Quality Review: GLNPO's quality management system has been given "outstanding" evaluations in previous peer and management reviews². GLNPO has implemented all recommendations from these external audits and complies with Agency Quality standards.

Data Limitations: Data limitations vary among the indicator components of the Index. The data are especially good for phosphorus concentrations, fish tissue contamination, benthic health, and air toxics deposition. The data associated with other components of the index (coastal wetlands, AOC sediment contamination, beach closures, and drinking water quality) are more qualitative. Some are distributed among several sources, and without an extensive trend line. Limitations for each of the index components are included in the formal indicator descriptions in the document, "Selection of Indicators for Great Lakes Basin Ecosystem Health, Version 4."

Error Estimate:

Error statistics for the Great Lakes Index have not been quantified. Each unit of the 40 point scale represents 2.5% of the total, so any unit change in the assessment of one of the component indicators would result in a change of the index of that magnitude. The degree of environmental change required to affect an indicator assessment, however, may be significantly large.

New/Improved Data or Systems: The data system specifically for this index is being developed. Data continue to be collected through the SOLEC process by various agencies, including GLNPO. Efforts are currently in progress to integrate various Great Lakes monitoring programs to better meet SOLEC objectives and to increase efficiencies in data collection and reporting.

References:

1. "Quality Management Plan for the Great Lakes National Program Office." EPA905-R-02-009. October 2002, Approved April 2003.
2. "GLNPO Management Systems Review of 1999." Unpublished - in USEPA Great Lakes National Program Office files.
3. Canada and the United States. "State of the Great Lakes 2003." ISBN 0-662-34798-6, Environment Canada, Burlington, Ontario, Cat. No. En40-11/35-2003E, and U.S.
4. Environmental Protection Agency, Chicago, EPA 905-R-03-004. 2003. Available on CD and online at <www.binational.net>.
5. Canada and the United States. "Implementing Indicators 2003 - A Technical Report." ISBN 0-662-34797-8 (CD-Rom), Environment Canada, Burlington, Ontario, Cat. No. En164-1/2003E-MRC (CD-Rom), and U.S. Environmental Protection Agency, Chicago, EPA 905-R-03-003. 2003. Available on CD from U.S. EPA/Great Lakes National Program Office, Chicago.
6. Bertram, Paul and Nancy Stadler-Salt. "Selection of Indicators for Great Lakes Basin Ecosystem Health, Version 4." Environment Canada, Burlington, Ontario, and U.S. EPA, Chicago. 2000. Available online at <www.binational.net>.

FY 2005 Performance Measure: The average concentrations of PCBs in whole lake trout and walleye.

Performance Database: Great Lakes National Program Office (GLNPO) base monitoring program¹. The key fields for this measure are Lake Trout and Walleye (Lake Erie). Reporting starts with 1972 data for Lake Michigan and 1977 or 1978 data for the other Lakes. In FY05, the database will contain QA/QC data from fish collected in 2003.

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 an approved Quality Management system in place² that conforms to the EPA quality management order and is audited every 3 years in accordance with Federal policy for Quality Management. The Quality Assurance (QA) plan that supports the fish contaminant program is approved and available on request³. The draft field sampling Quality Assurance Project Plan (QAPP) is being revised and will be submitted to the GLNPO QA officer for review by September 30, 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 the fish contaminant program is to detect a 20% change in each measured contaminant concentration between two consecutively sampled periods at each site. The program was designed to reach that goal with 95% confidence.

New/Improved Data or Systems: The GLENDa database is a significant new system with enhanced capabilities. Existing and future fish data will be added to GLENDa.

"The Great Lakes Fish Monitoring Program - A technical and Scientific Model For Interstate Environmental Monitoring." September, 1990. EPA503/4-90-004.

"Great Lakes National Program Office Indicators. Fish Indicators."
<http://www.epa.gov/glnpo/glindicators/fishcontaminants.html>

"Trends in Great Lakes Fish Contaminants", Dr. Deborah Swackhammer, Univ of Minnesota
Environ. Occ. Health, School of Public Health, EPA Grant #GL97524201-2, 7/1/02. De Vault, D. S. 1984. Contaminant analysis of fish from Great Lakes harbors and tributary mouths. U.S. Environmental Protection Agency, Great Lakes National Program Office. EPA 905/3-84-003.

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"GLNPO Management Systems Review of 1999." Unpublished - in USEPA Great Lakes National Program Office files.

FY 2005 Performance Measure: Concentration trends of toxic chemicals in the air in the Great Lakes basin will decline.

Performance Database: Great Lakes National Program Office (GLNPO) integrated atmospheric deposition network ¹ (IADN) operated jointly with Canada. Reporting starts with 1992 data, collected through the joint US/Canadian Integrated Atmospheric Deposition Program and includes, PCBs, PAHs, and pesticides. Monitoring results from 2003 will be reported in 2005.

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 Lakes' 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 stations in Chicago and Cleveland 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 uL) into GC-ECD or GC-MS instruments.

All IADN data are loaded and quality controlled using the Research Database Management System (RDMQ), a Statistical Analysis System (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 annual 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 Management². 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 reviews³. 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 standards⁴.

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 joint international web site, and to the IADN website at < www.msc.ec.gc.ca/iadn/ >.

References:

1. "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.

2. "Quality Management Plan for the Great Lakes National Program Office." EPA905-R-02-009. October 2002, Approved April 2003.
3. "GLNPO Management Systems Review of 1999." Unpublished - in USEPA Great Lakes National Program Office files.

4. "Integrated Atmospheric Deposition Network Quality Assurance Program Plan - Revision 1.1. Environment Canada and USEPA. June 29, 2001. Unpublished - in USEPA Great Lakes National Program Office files.

FY 2005 Performance Measure: Cumulative total of Areas of Concern within the Great Lakes Basin that have been restored and delisted.

Performance Database: US EPA's Great Lakes National Program Office will track the cumulative total Areas of Concern (AOC) and post that information <http://www.epa.gov/glnpo/aoc/index.html>. Forty-three AOCs have been identified: 26 located entirely within the United States; 12 located wholly within Canada; and five that are shared by both countries. GLNPO is tracking the 31 which are within the US or shared; however, none of these are currently restored and delisted.

Data Source: Internal tracking and communications with Great Lakes States, the US Department of State and the International Joint Commission (IJC).

Methods, Assumptions, and Suitability: US EPA's Great Lakes National Program Office is in regular communication with the Great Lakes States, the US Department of State and the IJC, and is responsible for coordinating and overseeing the de-listing of Areas of Concern.

QA/QC Procedures: GLNPO has an approved Quality Management system in place¹ that conforms to the EPA quality management order and is audited every 3 years in accordance with Federal policy for Quality Management

Data Quality Review: GLNPO's quality management system has been given "outstanding" evaluations in previous peer and management reviews². GLNPO has implemented all recommendations from these external audits and complies with Agency Quality standards.

Data Limitations: None known.

Error Estimate: None.

New/Improved Data or Systems: NA

References:

GLNPO will develop and maintain the appropriate tracking system once there are any de-listed US or Binational Areas of Concern. Information regarding Areas of Concern is currently available online at: <http://www.epa.gov/glnpo/aoc/index.html>

1. "Quality Management Plan for the Great Lakes National Program Office." EPA905-R-02-009. October 2002, Approved April 2003.
2. "GLNPO Management Systems Review of 1999." Unpublished - in USEPA Great Lakes National Program Office files.

FY 2005 Performance Measure: Cubic yards of contaminated sediment in the Great Lakes remediated. (cumulative from 1997)

Performance Database: Data tracking sediment remediation are compiled in two different formats. The first is a matrix that shows the cumulative total of contaminated sediment that was remediated in the Great Lakes basin from 1997 to 2002 for each Area of Concern or other non-Areas of Concern with sediment remediation. The second format depicts the yearly totals for sediment remediation projects graphically. These databases are reported approximately one year after the completion of work.

Data Source: GLNPO collects sediment remediation data from various state and Federal project managers across the Great Lakes region. These data are obtained directly from the project manager via an information fact sheet the project manager completes for any site in the Great Lakes basin that has performed any remedial work on

contaminated sediment. The project manager also indicates whether an approved Quality Assurance Project Plan (QAPP) was used in the collection of data at the site. This is used to decide if the data provided by the project manager are reliable for GLNPO reporting purposes. If an approved QAPP was not used, sediment data would likely not be reported by GLNPO.

Methods, Assumptions, and Suitability: The data collected to track sediment remediation in the Great Lakes show the amount of sediment remediated for that year, the amount of sediment remediated in prior years, and the amount of sediment remaining to be addressed for a particular site. This format is suitable for year-to-year comparisons for individual sites.

QA/QC Procedures: GLNPO relies on the individual government/agency project managers to provide information on whether an approved QAPP was in place during remediation of contaminated sediment. This tracking database houses information on the calculated amount of sediment remediated at individual sites as provided by the project managers. It is then GLNPO's responsibility to determine if the data are usable based upon the information sheet provided by the project managers.

Data Quality Review: The data, in both the graphic and matrix formats, are reviewed by management, individual project managers, and GLNPO's Sediment Team Leader prior to being released. 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 data provided in the sediment tracking database should be used as a tool to track sediment remediation progress at sites across the Great Lakes. Many of the totals for sediment remediation are estimates provided by project managers. For specific data uses, individual project managers should be contacted to provide additional information.

Error Estimate: The amount of sediment remediated or yet to be addressed should be viewed as estimated data. A specific error estimate is not available.

New/Improved Data or Systems: Existing tracking systems are anticipated to remain in place.

References:

1. Collier, D.C. 2002. "*Sediment Remediation Matrix*". Unpublished - in USEPA Great Lakes National Program Office files.
2. Collier, D.C. 2002. "*Sediment Remediation Pie Charts*". Unpublished - in USEPA Great Lakes National Program Office files.
3. Collier, D.C. 2002. "Compilation of Project Managers Informational Sheets". Unpublished - in USEPA Great Lakes National Program Office files.

FY 2005 Performance Measure: Acres of submerged aquatic vegetation (SAV) present in the Chesapeake Bay.

Performance Database: SAV acres in Chesapeake Bay. Total acres surveyed and estimated additional acres from 1978 through 2002, excluding the years 1979-1983 and 1988 when no surveys were conducted. FY 2005 Annual Performance Report for this measure will be based on the results of the survey conducted the previous calendar year (2004). We expect to receive the preliminary survey results for calendar year 2004 in April 2005.

Data Source: Virginia Institute of Marine Sciences provides the data (via an EPA Chesapeake Bay Program grant to Virginia Institute of Marine Sciences). EPA has confidence in the third party data and believes the data are accurate and reliable based on QA/QC procedures described below.

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 (<http://www.vims.edu><http://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 <http://www.vims.edu/bio/sav/> provides this information as well. Metadata are included with the data set posted at the VIMS web site (<http://www.vims.edu/bio/sav/metadata/recent.html>).

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 and resource manager members of the workgroup. The workgroup presents the indicator to the subcommittee where extensive peer review by Bay Program managers occurs.

No audits have been conducted by the Inspector General (IG) or evaluations by the General Accounting Office (GAO), OMB and National Academy of Public Administration (NAPA). No deficiencies identified in external reviews. Data are not identified as an "Agency-Level or Material Weakness" as a result of EPA decisions under the Federal Managers Financial Integrity Act.

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., photointerpretation tools) were made over the 22 years of the annual SAV survey in Chesapeake Bay.

References:

See Chesapeake Bay SAV special reports at <http://www.vims.edu/bio/sav/savreports.html> and bibliography at <http://www.vims.edu/bio/sav/savchepub.html>. The SAV distribution data files are located at <http://www.vims.edu/bio/sav/savdata.html> and also at <http://www.chesapeakebay.net/pubs/statustrends/88-data-2002.xls>. The SAV indicator is published at <http://www.chesapeakebay.net/status.cfm?sid=88>.

FY 2005 Performance Measures:

- **Reduce nitrogen loads entering Chesapeake Bay, from 1985 levels (2002 Baseline: 51 million pounds/year reduced.)**
- **Reduce phosphorus loads entering Chesapeake Bay, from 1985 levels. (2002 Baseline: 8 million pounds/year reduced.)**
- **Reduce sediment loads entering Chesapeake Bay, from 1985 levels. (2002 Baseline: 0.8 million tons/year reduced.)**

Performance Database: Nutrient and Sediment Loads Delivered to the Chesapeake Bay. The Bay data files used in the indicator are located at <http://www.chesapeakebay.net/pubs/statustrends/186-data-2003.xls>. Data have been collected in 1985, 2000, 2001, and are expected on an annual basis after 2001. There is a two year data lag. Load data are from Chesapeake Bay watershed portions of NY, MD, PA, VA, WV, DE, and DC.

FY 2005 Annual Performance Report for these measures will be based on the results of the 2003 data collection. We expect to receive the preliminary results for calendar year 2003 in April 2005.

Data Source: State/district data are provided to the Chesapeake Bay Program Office for input into the Chesapeake Bay Program Watershed Model.

Methods, Assumptions and Suitability: The data are of high quality. Data are consolidated by watershed boundaries at the state level and provided to the Chesapeake Bay Program Office for input into the watershed model.

Data are collected from states and local governments programs. Methods are described at <http://www.chesapeakebay.net/data/index.htm>, (refer to CBP Watershed Model Scenario Output Database, Phase 4.3). For more information contact Kate Hopkins at hopkins.kate@epa.gov or Jeff Sweeney jsweeney@chesapeakebay.net

QA/QC Procedures: State offices have documentation of the databases used indicating the design, construction and maintenance conforming to existing U.S. Department of Agriculture Natural Resources Conservation Service (USDA/NRCS) technical standards and specifications for nonpoint source data and PCS standards for point source data. State offices also have documentation of implemented Best Management Practices (BMPs) based on USDA NRCS standards and specification and the Chesapeake Bay Program's protocols and guidance. BMPs are traditionally used to reduce pollutant loads coming from nonpoint sources such as urban/suburban runoff, agriculture, and forestry activities. Some people also think of nutrient reduction technology used at wastewater treatment plants as a point source BMP, however, in the traditional sense, BMPs have been used to describe the suite of practices used to reduce pollutant loads coming from agricultural, forest, and urban/suburban lands. References include: the USDA NRCS Technical Guide and Appendix H from the Chesapeake Bay Program (contact Russ Mader at mader.russ@epa.gov or Kate Hopkins at hopkins.kate@epa.gov). Quality assurance program plans are available in each state office.

Data Quality Reviews: All data are reviewed and approved by the individual jurisdictions before input to the watershed model. Model results are also reviewed and approved before release to the web site. Processes are reviewed by the Tributary Strategy Workgroup of the Nutrient Subcommittee. The model itself is given a quarterly peer review by an outside independent group of experts.

No audits have been conducted by the Inspector General (IG) or evaluations by the General Accounting Office (GAO), OMB and National Academy of Public Administration (NAPA). No deficiencies identified in external reviews. Data are not identified as an "Agency-Level or Material Weakness" as a result of EPA decisions under the Federal Managers Financial Integrity Act.

Data Limitations: Data collected from voluntary collection programs are not included in the database, even though they may be valid and reliable. The only data submitted by state and local governments to our office are data that are required for reporting under the cost share and regulatory programs. State and local governments are aware that additional data collection efforts are being conducted by non-governmental organizations and that several entities are involved in using BMPs, however, they are done independently of the cost share programs and are therefore not reported.

Error Estimate: There may be errors of omission, mis-classification, incorrect georeferencing, mis-documentation or mistakes in the processing of data.

New/Improved Data or Systems: The next version of the watershed model is currently under development and will be completed in 2005. The new version(phase 5) will have increased spatial resolution and ability to model the effect of management practices. The phase 5 watershed model is a joint project with cooperating state and Federal agencies. Contact Gary Shenk gshenk@chesapeakebay.net or see the web site at <http://www.chesapeakebay.net/phase5.htm>

References:

See <http://www.chesapeakebay.net/data/index.htm>, refer to CBP Watershed Model Scenario Output Database, Phase 4.3. Contact Kate Hopkins at hopkins.kate@epa.gov or Jeff Sweeney jsweeney@chesapeakebay.net

The nutrient and sediment loads delivered to the Bay indicator are published at <http://www.chesapeakebay.net/status.cfm?sid=186>. The nutrient and sediment loads delivered to the Bay data files used in the indicator are located at <http://www.chesapeakebay.net/pubs/statustrends/186-data-2003.xls>.

See "Chesapeake Bay Watershed Model Application and Calculation of Nutrient and Sediment Loadings, Appendix H: Tracking Best Management Practice Nutrient Reductions in the Chesapeake Bay Program, A Report of the Chesapeake Bay Program Modeling Subcommittee", USEPA Chesapeake Bay Program Office, Annapolis, MD, August 1998, available at <http://www.chesapeakebay.net/pubs/777.pdf>

See USDA NRCS Field Office Technical Guide available at <http://www.nrcs.usda.gov/technical/efotg/>

FY 2005 Performance Measure: Prevent water pollution and protect aquatic ecosystems so that overall aquatic system health of coastal waters of the Gulf of Mexico is improved on the "good/fair/poor" scale of the National Coastal Condition Report.

FY 2005 Performance Measure: Reduce releases of nutrients throughout the Mississippi River Basin to reduce the size of the hypoxic zone in the Gulf of Mexico.

Performance Database: (1) Louisiana Coastal Hypoxia Shelfwide Survey metadata (data housed at National Oceanic and Atmospheric Administration/National Ocean Data Center, Silver Spring, Maryland). Funds for this research are provided by the National Oceanic and Atmospheric Administration, Coastal Ocean Program (NOAA/COP)

(2) Southeast Area Monitoring and Assessment Program (SEAMAP) - Gulf surveys.

Data Source: (1) Hydrographic data are collected during annual surveys of the Louisiana continental shelf. Nutrient, pigment and station information data are also acquired. The physical, biological and chemical data collected are part of a long-term coastal Louisiana dataset. The goal is to understand physical and biological processes that contribute to the causes of hypoxia and use the data to support environmental models for use by resource managers.

(2) The Southeast Area Monitoring and Assessment Program (SEAMAP) is a state/Federal/university program for collection, management and dissemination of fishery-independent data and information in the southeastern United States

Methods, Assumptions and Suitability: (1) During the shelfwide cruise, data is collected along transects from the mouth of the Mississippi River to the Texas border. Information is collected on a wide range of parameters, including conductivity/temperature/depth (CTD), light penetration, dissolved oxygen, suspended solids, nutrients, phytoplankton, and chlorophyll. Hydrographic, chemical, and biological data from two transects of Terrebonne Bay on a monthly basis, and bimonthly, off Atchafalaya Bay. There is a single moored instrument array in 20-m water depth in the core of the hypoxic zone that collects vertical conductivity/temperature data, as well as near-surface, mid, and near-bottom oxygen data; an upward directed Acoustic Doppler Current Profiler (ADCP) on the seabed measures direction and speed of currents from the seabed to the surface. There is also an assortment of nutrient and light meters.

Station depths range from 3.25 to 52.4 meters. **The objective is to delimit and describe the area of midsummer bottom dissolved oxygen less than 2 (mg. L).** Northern end stations of transects are chosen based on the survey vessel's minimum depth limits for each longitude.

Standard data collections include hydrographic profiles for temperature, salinity, dissolved oxygen, and optical properties. Water samples for chlorophyll *a* and phaeopigments, nutrients, salinity, suspended sediment, and phytoplankton community composition are collected from the surface, near-bottom, and variable middle depths.

Details of data collection and methodology are provided in referenced reports.

QA/QC Procedures: NOAA does not require written QA/QC procedures or Quality Management Plan; however, the procedures related to data collection are covered in the metadata files.

SEAMAP Data Management System (DMS) is based on information contained in the SEAMAP Gulf and South Atlantic DMS Requirements Document developed through a cooperative effort between National Marine Fisheries Service (NMFS) and other SEAMAP participants.

Data Quality Reviews: (1) Essential components of an environmental monitoring program in the Gulf of Mexico include efforts to document the temporal and spatial extent of shelf hypoxia, and to collect basic hydrographic, chemical and biological data related to the development of hypoxia over seasonal cycles. All data collection protocols and data are presented to and reviewed by the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force (the Task Force) in support of the adaptive management approach as outlined in the Action Plan for Reducing, Mitigating, and Controlling Hypoxia in the Northern Gulf of Mexico (the Action Plan).

(2) Biological and environmental data from all SEAMAP-Gulf surveys are included in the SEAMAP Information System, managed in conjunction with National Marine Fisheries Service – Southeast Fisheries Science Center (NMFS-SEFSC). Raw data are edited by the collecting agency and verified by the SEAMAP Data Manager prior to entry into the system. Data from all SEAMAP-Gulf surveys during 1982-2002 have been entered into the system, and data from 2003 surveys are in the process of being verified, edited, and entered for storage and retrieval.

Data Limitations: Some existing monitoring for shelf-wide conditions are currently only performed each year primarily, but not exclusively, during July. Resources to conduct them limit the spatial boundaries of some of these existing monitoring efforts. Experience with the datasets has shown that when data are plotted or used in further analysis, outlying values may occasionally be discovered.

Error Estimate: (1) The manufacturers state +/- 0.2mg/L as the error allowance for both SeaBird and Hydrolab oxygen sensors.

References:

Mississippi River/Gulf of Mexico Watershed Nutrient Task force. 2001. Action Plan for Reducing, Mitigating, and Controlling Hypoxia in the Northern Gulf of Mexico. Washington, DC.

Rabalais N.N., R.E. Turner, Dubravko Justic, Quay Dortch, and W.J. Wiseman. 1999. Characterization of Hypoxia. Topic 1 Report for the Integrated assessment on Hypoxia in the Gulf of Mexico. NOAA Coastal Ocean Program Decision Analysis Series No. 15. Silver Spring Maryland: National Oceanic and Atmospheric Administration.

Hendee, J.C. 1994. Data management for the nutrient enhanced coastal ocean productivity program. *Estuaries* 17:900-3

Rabalais, Nancy N., W.J. Wiseman Jr., R.E. Turner ; Comparison of continuous records of near-bottom dissolved oxygen from the hypoxia zone of Louisiana. *Estuaries* 19:386-407

SEAMAP Information System <http://www.gsmfc.org/sis.html>

STATUTORY AUTHORITIES

1909 The Boundary Waters Treaty
1978 Great Lakes Water Quality Agreement (GLWQA)
1987 Great Lakes Water Quality Agreement
1987 Montreal Protocol on Ozone Depleting Substances
1990 Great Lakes Critical Programs Act
1996 Habitat Agenda
1997 Canada-U.S. Great Lakes Binational Toxics Strategy
2002 Great Lakes and Lake Champlain Act
Clean Water Act
Coastal Wetlands Planning, Protection, and Restoration Act of 1990
Estuaries and Clean Waters Act of 2000
North American Wetlands Conservation Act
US-Canada Agreements
Water Resources Development Act (WRDA)

OBJECTIVE: Enhance Science and Research

Through 2008, provide a sound scientific foundation for EPA's goal of protecting, sustaining, and restoring the health of people, communities, and ecosystems by conducting leading-edge research and developing a better understanding and characterization of environmental outcomes under Goal 4.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Enhance Science and Research	\$380,878.7	\$420,040.9	\$394,823.7	(\$25,217.2)
Environmental Program & Management	\$52,443.0	\$61,444.1	\$62,016.9	\$572.8
Hazardous Substance Superfund	\$34,740.6	\$14,267.8	\$8,361.6	(\$5,906.2)
Science & Technology	\$286,526.2	\$336,318.6	\$316,109.2	(\$20,209.4)
Buildings and Facilities	\$5,525.0	\$5,680.5	\$6,131.7	\$451.2
Inspector General	\$1,643.9	\$2,329.9	\$2,204.3	(\$125.6)
Total Workyears	1,230.8	1,230.4	1,230.0	-0.4

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Research: Computational Toxicology	\$5,436.9	\$8,948.6	\$13,028.7	\$4,080.1
Research: Endocrine Disruptor	\$13,161.9	\$12,984.7	\$8,044.0	(\$4,940.7)
Research: Global Change	\$22,354.9	\$21,528.6	\$20,689.6	(\$839.0)
Research: Human Health and Ecosystems	\$163,550.7	\$190,730.8	\$177,407.5	(\$13,323.3)
Research: Pesticides and Toxics	\$32,664.7	\$36,784.8	\$29,017.7	(\$7,767.1)
Research: Fellowships	\$2,040.8	\$6,402.8	\$8,261.6	\$1,858.8
Congressionally Mandated Projects	\$13,669.8	\$0.0	\$0.0	\$0.0
Homeland Security: Preparedness, Response, and Recovery	\$30,959.2	\$28,999.9	\$22,751.7	(\$6,248.2)
Endocrine Disruptors	\$7,075.1	\$9,002.7	\$9,037.3	\$34.6
Science Policy and Biotechnology	\$850.2	\$1,603.8	\$1,707.2	\$103.4
Human Health Risk Assessment	\$27,536.0	\$36,495.0	\$36,832.2	\$337.2
Administrative Projects	\$61,578.5	\$66,559.2	\$68,046.2	\$1,487.0
TOTAL	\$380,878.7	\$420,040.9	\$394,823.7	(\$25,217.2)

ANNUAL PERFORMANCE GOALS AND MEASURES**Research****Research to Support FQPA**

In 2005 Provide high quality exposure, effects and assessment research results that support the August 2006 reassessment of current-use pesticide tolerances to EPA's Office of Pesticide Programs so that, by 2008, EPA will be able to characterize key factors influencing children's and other subpopulations' risks from pesticide exposure.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud. 09/30/05	
Children's exposure data and tools for assessing aggregate exposure to residential-use pesticides				data/tools

Baseline: The Food Quality Protection Act (FQPA) requires EPA to review, by August 2006, the pesticide tolerances for pesticides in use as of August 1996. EPA's Office of Research Development (ORD) has been conducting research to generate new and improved exposure and effects tools (data, methods, and models) to assist the Office of Pesticide Programs (OPP) in meeting this 2006 requirement. In FY05, ORD will provide OPP with a summary document highlighting the key results from ORD's exposure research program over the period 2000-2005. ORD will also provide OPP with validated children's pesticide exposure data and exposure factor data from multiple exposure field and laboratory studies. This high quality data will fill critical data gaps and eliminate the need for using many default assumptions currently used in the risk assessment process. An analysis of these results will also be performed to help identify remaining critical children's exposure data needs. ORD will also provide OPP with a suite of exposure-to-dose models that can be used to estimate aggregate pesticide exposures for children (by age and developmental life stage) and other susceptible subpopulations. These state-of-the-art models will be used by OPP to develop pesticide exposure distributions and address key issues associated with variability and uncertainty in exposure. With improved information, EPA can better protect public health from risks posed by pesticide use. Beginning in FY 2005, regular evaluations by independent and external panels will provide reviews of EPA research programs' relevance, quality, and successful performance to date, in accordance with OMB's Investment Criteria for Research and Development. Reviewers will also qualitatively determine whether EPA has been successful in meeting its annual and long-term commitments for research.

Risk Assessment

In 2005 Through FY2005 initiate or submit to external review 28 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 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
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 at least 20 high priority chemicals.		20		assessments
Complete 8 human health assessments and publish their results on the IRIS website			8	assessments
Initiate or submit to external peer review human health assessments of 8 high priority chemicals			8	assessments

Baseline: IRIS is an EPA data base 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. Achieving this APG 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. In FY 2004, the Agency will complete 4 human health assessments and initiate or submit for external peer review human health assessments of at least 20 high priority chemicals. In FY 2005, EPA will complete 8 more assessments and initiate or submit for review an additional 8 assessments, for a two-year total of 12 completed assessments and 28 initiated or submitted for review. Beginning in FY 2005, regular evaluations by independent and external panels will provide reviews of EPA research programs' relevance, quality, and successful performance to date, in accordance with OMB's Investment Criteria for Research and Development. Reviewers will also qualitatively determine whether EPA has been successful in meeting its annual and long-term commitments for research.

Regional Scale Ecosystem Assessment Methods

In 2005 The baseline ecological condition of Western streams will be determined so that, by 2008, a monitoring framework is available for streams and small rivers in the Western U.S. that can be used from the local to the national level for statistical assessments of condition and change to determine the status and trends of ecological resources.

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 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
A study of fish genetic diversity that demonstrates the power of this modern approach for evaluating condition and vitality of biotic communities to Federal, state and local resource managers.		1		report
Baseline ecological condition of Western streams determined			1	report

Baseline: This FY 2005 APG represents the first statistically-valid baseline for Western stream condition from state-based data. Although States and Tribes are required by the Clean Water Act (CWA) to monitor the condition of all their waters, they typically are only able to monitor at, and make scientifically defensible statements about, targeted sites that account for only a small percentage of their total waters. The monitoring framework used in the achievement of this APG removes scientific uncertainty by using a probability design approach (random sampling) to provide a more cost-effective, scientifically-defensible alternative for determining the condition of all the streams of a State or Tribe. EPA is transferring this approach to our State, Tribal, and EPA Regional partners in the Western U.S. so that they can determine the status and trends of their ecological resources. This monitoring framework also provides the scientific basis for identifying problems and needs for action, causes of harm, and successful mitigation and restoration efforts. This information will ultimately allow EPA to determine its success in achieving specific environmental outcomes.

Beginning in FY 2005, regular evaluations by independent and external panels will provide reviews of EPA research programs' relevance, quality, and successful performance to date, in accordance with OMB's Investment Criteria for Research and Development. These evaluations will include an examination of a program's design to determine the appropriateness of a program's short-, intermediate-, and long-term goals and its strategy for attaining these. Reviewers will also qualitatively determine whether EPA has been successful in meeting its annual and long-term commitments for research. Recommendations and results from these reviews will improve the design and management of EPA research programs and help to measure their progress under the Government Performance and Results Act (GPRA).

Research on Riparian Zone Restoration

In 2005 Provide technical guidance for implementing and evaluating projects to restore riparian zones, which are critical landscape components for the restoration of aquatic ecosystems and water quality, so that, by 2010, watershed managers have state-of-the-science field-evaluated tools, technical guidance, and decision-support systems for selecting, implementing, and evaluating cost-effective and environmentally-sound approaches to restore ecosystem services as part of watershed management

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Technical guidance for implementing and evaluating projects to restore riparian zones			1	tech. guide

Baseline: This FY 2005 APG will provide State, Tribal, Regional, and local watershed managers and restoration practitioners with technical guidance for selecting, implementing, and evaluating cost-effective and environmentally-sound approaches to restore ecosystem services. Essential ecosystem services are a result of naturally occurring processes and include such necessities for human health as a reliable supply of clean water, oxygen, nutrient cycling, and soil regeneration, as well as wildlife habitat and greenspace. Habitat destruction, invasive species, and non-point source pollutants such as excess nitrogen and eroded sediments adversely impact ecosystem services by contributing to the loss of ecosystems and/or their functions. Finding effective and efficient ways to protect and restore ecosystem services is necessary for human, as well as ecological, health. Riparian zones, i.e. those areas immediately adjacent to river and stream banks, are critical components of any watershed. Without a healthy riparian zone, it would be difficult, if not impossible, to achieve water quality goals. EPA is evaluating the effectiveness of riparian restoration techniques as tools to achieve goals such as water quality criteria or the restoration of specific ecosystem functions, such as denitrification. The guidance represented by this APG will help watershed managers and restoration practitioners in decision-making and on-the-ground implementation of scientifically- and technically-defensible restoration and management techniques.

Beginning in FY 2005, regular evaluations by independent and external panels will provide reviews of EPA research programs' relevance, quality, and successful performance to date, in accordance with OMB's Investment Criteria for Research and Development. Reviewers will also qualitatively determine whether EPA has been successful in meeting its annual and long-term commitments for research.

Exposures and Effect of Environmental Research

In 2005 Provide risk assessors and managers with methods and tools for measuring exposure and effects in children, and characterizing and reducing risks to children from environmental agents in schools so that, by 2014, EPA will be able to demonstrate why some groups of people, defined by life stage, genetic factors, and health status, are more vulnerable than others to adverse effects from exposure to environmental agents.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud. 09/30/05	
Methods and tools for measuring exposure and effects in children, and characterizing and reducing risks to children from environmental agents in schools				methods/tools

Baseline: Current risk assessments for children are hampered by the lack of exposure and risk data and by a lack of methods that are appropriate for children. By FY 2004, EPA expects to have better data on children's exposures and on children's exposure factors. In FY 2005, research will build upon the improved data on children's exposures by compiling and analyzing the data, and translating the enhanced knowledge into better methods and approaches for measuring and estimating children's exposure and risk. The research in FY 2005 will culminate in initial approaches, ready for external peer review, on: how to conduct children's exposure and risk assessments; how to replace default uncertainty factors with data and distributions; and how to use biomarkers more appropriately in characterizing children's exposures. In addition, the increased understanding of children's exposures will provide evaluated methods for reducing their exposures and risks in schools and other indoor environments. These data, methods, and approaches will significantly improve the reliability, credibility, and transparency of children's risk assessments used by regulatory decision-makers throughout EPA and will provide to the public and to school and daycare officials tested methods to reduce children's exposures to chemical pollutants.

Beginning in FY 2005, regular evaluations by independent and external panels will provide reviews of EPA research programs' relevance, quality, and successful performance to date, in accordance with OMB's Investment Criteria for Research and Development. Reviewers will also qualitatively determine whether EPA has been successful in meeting its annual and long-term commitments for research. Recommendations and results from these reviews will improve the design and management of EPA research programs and help to measure their progress under the Government Performance and Results Act (GPRA).

Mercury Research

In 2005 Provide information on managing mercury and other co-pollutants from utility boilers so that, by 2010, there is an extensive set of data and tools available to help industry and federal, state, and local environmental management officials make decisions on the most cost-effective ways to reduce or prevent mercury releases into the environment.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud. 1	
Information on managing mercury and other co-pollutants from utility boilers				report

Baseline: EPA's Mercury Study Report to Congress identified emissions from coal-fired utilities as one of the most significant contributors of mercury to the air (<http://www.epa.gov/oar/mercury.html>). On December 14, 2000, EPA determined that mercury emissions from coal-fired utilities needed to be regulated. Unless some form of multi-pollutant legislation for utility boilers is passed by Congress, a Maximum Achievable Control Technology standard (MACT) will be promulgated in December 2004 to control mercury emissions with full compliance of utilities expected by December 2007. There are a variety of technological options under development that could be used to more cost-effectively achieve any required mercury reduction. These control technologies need to be evaluated before utilities make decisions on how to comply. The state-of-the-science on emission controls for mercury will be advanced by investigating the factors that impact the species of mercury in coal-fired utilities flue gas and the performance of promising mercury control technologies. Results available by the end of FY 2005 will be documented and made available for use by utilities and other interested stakeholders.

Beginning in FY 2005, regular evaluations by independent and external panels will provide reviews of EPA research programs' relevance, quality, and successful performance to date, in accordance with OMB's Investment Criteria for Research and Development. These evaluations will include an examination of a program's design to determine the appropriateness of a program's short-, intermediate-, and long-term goals and its strategy for attaining these. Reviewers will also qualitatively determine whether EPA has been successful in meeting its annual and long-term commitments for research. Recommendations and results from these reviews will improve the design and management of EPA research programs and help to measure their progress under the Government Performance and Results Act (GPRA).

Homeland Security Research

In 2005 Provide tools, case studies, and technical guidance so that, by FY 2006, first responders and decision-makers will have the methods, guidance documents, and technologies to enhance safety and to mitigate adverse effects of the purposeful introduction of hazardous chemical or biological materials into the environment.

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.

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.

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 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
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
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
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
Risk assessment toolbox to predict and reduce the consequences of chemical/biological attacks in U.S. cities.			1	toolbox
Technical guidance for water system owners and operators on methods/strategies for minimizing damage from intentional introduction of biological/chemical contaminants			09/30/05	tech. guidance
Water system-related case studies that provide a spectrum of contingency planning situations and responses, including one specifically focused on the National Capital area			09/30/05	case studies

Baseline: EPA's homeland security research provides appropriate, effective, and rapid risk assessment guidelines and technologies to help decision-makers prepare for, detect, contain, and decontaminate building and water treatment systems against which chemical and/or biological attacks have been directed. The Agency intends to expand the state of the knowledge of potential threats, as well as its response capabilities, by assembling and evaluating private sector tools and capabilities so that preferred response approaches can be identified, promoted, and evaluated for future use by first responders, decision-makers, and the public. Examples of the types of products that will be available in FY 2005 include: sampling protocols, efficacy protocols, risk assessment tools, and threat scenario simulations. These products will enable first responders to better deal with threats to the public and the environment posed by the intentional release of toxic or infectious materials.

Beginning in FY 2005, regular evaluations by independent and external panels will provide reviews of EPA research programs' relevance, quality, and successful performance to date, in accordance with OMB's Investment Criteria for Research and Development. These evaluations will include an examination of a program's design to determine the appropriateness of a program's short-, intermediate-, and long-term goals and its strategy for attaining these. Reviewers will also qualitatively determine whether EPA has been successful in meeting its annual and long-term commitments for research. Recommendations and results from these reviews will improve the design and management of EPA research programs and help to measure their progress under the Government Performance and Results Act (GPRA).

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Performance Measure: Children's exposure data and tools for assessing aggregate exposure to residential-use pesticides

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: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2005 Performance Measure: Information on managing mercury and other co-pollutants from utility boilers

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: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2005 Performance Measure: Methods and tools for measuring exposure and effects in children, and characterizing and reducing risks to children from environmental agents in schools.

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: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2005 Performance Measure: Technical guidance for implementing and evaluating projects to restore riparian zones.

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: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2005 Performance Measure: Baseline ecological condition of Western streams determined.

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: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2005 Performance Measure: Complete 8 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: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2005 Performance Measure: Initiate or submit to external peer review human health assessments of 8 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: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2005 Performance Measure: Risk assessment toolbox to predict and reduce the consequences of chemical/biological attacks in U.S. cities.

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: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2005 Performance Measure: Technical guidance for water system owners and operators on methods/strategies for minimizing damage 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: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2005 Performance Measure: Water system-related case studies that provide a spectrum of contingency planning situations and responses, including one specifically focused on the National Capital area.

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: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

GOAL 5: Compliance and Environmental Stewardship

STRATEGIC GOAL: Improve environmental performance through compliance with environmental requirements, preventing pollution, and promoting environmental stewardship. Protect human health and the environment by encouraging innovation and providing incentives for governments, businesses, and the public that promote

BACKGROUND AND CONTEXT

The underlying principles of the activities within Goal 5 are to improve environmental performance through compliance with environmental requirements, preventing pollution, and promoting environmental stewardship. Working in partnership with State and Tribal governments, local communities and other Federal agencies, EPA identifies and addresses significant environmental and public health problems, strategically deploys its resources, and makes use of integrated approaches to achieve strong environmental outcomes.

Enforcement and Compliance

The Agency is committed to implementing a “smart enforcement” approach to EPA’s mission of identifying, preventing, and reducing potential environmental risks and noncompliance and promoting greater voluntary environmental stewardship. This approach uses the most appropriate enforcement or compliance tool to address the most significant problems to achieve the best outcomes.

Smart enforcement embodies an integrated, common-sense approach to problem-solving and decision-making. Simply put, smart enforcement is the use of an appropriate mix of data collection and analysis; compliance monitoring, assistance and incentives; civil and criminal enforcement resources; and innovative problem-solving approaches; to address significant environmental issues and achieve environmentally beneficial outcomes. This approach requires that the Agency develop and maintain strong and flexible partnerships with regulated entities and a well-informed public, in order to foster a climate of empowerment, and a shared responsibility for the quality of our nation’s land, resources and communities.

Pollution Prevention and Innovation

While enforcement presents one tool for achieving the Agency’s mission, the diversity of America’s environments (communities, homes, workplaces and ecosystems) requires EPA to adopt a multi-faceted approach to protecting the public from threats that may be posed by pesticides, toxic chemicals and other pollutants. Throughout its history, EPA has taken the lead in developing and evaluating tools and technologies to monitor, prevent, control, and cleanup pollution. 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 many important human health and environmental problems. A preventive approach requires that the Agency develop: (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. EPA remains committed to helping industry further prevent pollution by adopting more efficient, sustainable, and protective business practices, materials, and technologies.

The Pollution Prevention Act of 1990 establishes pollution prevention as a “national objective” and the pollution prevention hierarchy as national policy. The Act requires that pollution should be prevented or reduced at the source wherever feasible; that pollution that cannot be prevented should be recycled in an environmentally safe manner; and that, in the absence of feasible prevention or recycling opportunities, pollution should be treated. Disposal or other release into the environment should be used as a last resort. Pollution Prevention is generally more effective than end-of-pipe approaches in reducing potential health and environmental risks in that it helps identify voluntary programs which:

- Reduce releases to the environment;
- Reduce the need to manage pollutants;
- Avoid shifting pollutants from one medium (air, water, land) to another; and
- Protect and conserve energy sources and natural resources for future generations by cutting waste and conserving materials.

Increasingly complex environmental problems, such as the continuing accumulation of greenhouse gases; poor water quality; increasing urban smog; and inequities in building and maintaining water infrastructure; give rise to the need for EPA to develop and use a broader set of cross media tools. Shrinking state and Federal budgets also require the development of new ways to leverage partnerships with states, local communities and businesses to produce better environmental results at lower costs. EPA will work to ensure that governments, businesses and the public meet Federal legal environmental requirements, and will encourage and assist them to adopt environmental stewardship and to voluntarily exceed current requirements. Through public recognition, incentives, and sometimes relief from regulatory mandates, EPA will encourage environmental stewardship, behavior that goes beyond compliance with the laws.

Strengthening environmental partnerships, targeting priorities, expanding the current collection of tools, and creating a more innovative culture to effectively address challenging problems is what EPA's innovation strategy is all about.

EPA is committed to promoting innovation in strategies to protect the environment, including new less-polluting technologies. In FY 2002, EPA launched a comprehensive Innovations Strategy to drive innovation in all aspects of the Agency's work. Crafted with input from states and other stakeholders, the Strategy focuses on transforming EPA into a more innovative, results-oriented organization by:

- strengthening partnerships with states and Tribes;
- focusing on a set of priority problems that are in need of innovative solutions;
- developing tools and approaches that expand problem-solving capabilities; and,
- fostering an innovation-friendly culture and set of organizational systems.

The effectiveness of EPA's regulatory decisions depends on the analysis underlying these regulations, and the clarity with which they are presented. Their quality determines how well environmental programs actually work, and the extent to which they achieve health and environmental goals. Sound economic and policy analysis builds the foundation for EPA to meet its overarching goals, as well as to wisely use societal resources.

EPA's emphasis on economic and policy analysis supports the Agency's continuing effort to quantify the benefits of its air, land and water regulations, policies and programs. For example, determining the value of ecological systems and the benefits associated with preserving these systems will be critical over the coming years as the Agency strives to focus on healthy communities and ecosystems. Sound economic and policy analysis also supports EPA's stewardship and improved compliance goals by fostering consideration of alternative approaches, such as voluntary programs, innovative compliance tools, and flexible, market-based solutions. Sound economic and policy analysis helps EPA achieve results by documenting and communicating its decisions, thereby avoiding challenges to our analyses that might otherwise impede our ability to implement regulations, policies or programs.

Tribal Capacity

Since adoption of the EPA Indian Policy in 1984, EPA has worked with Tribes on a government-to-government basis that affirms the federal trust responsibility that EPA maintains with federally recognized Tribe and Tribal government. In terms of strengthening partnerships with Tribes, under Federal environmental statutes, the Agency has responsibility for assuring human health and environmental protection in Indian Country. EPA has worked to establish the internal infrastructure and organize its activities in order to meet this responsibility. The creation of EPA's American Indian Environmental Office (AIEO) in 1994 took responsibility for such efforts and was a further step in ensuring environmental protection in Indian Country.

Research

Today's environmental innovations extend beyond scientific and technological advances to 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 related to 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 continues to evolve, with a focus on increased efficiency and effectiveness, and greater inclusiveness of all elements of society.

MEANS AND STRATEGY

Improving Compliance: A strong enforcement and compliance 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 Agency carefully targets its enforcement and compliance assurance resources, personnel and activities 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.

In FY 2005 the Agency will identify national priorities, in consultation with states and other regulatory partners, to most effectively and efficiently address significant environmental, public health, or noncompliance problems, and will use the most appropriate tool(s) to achieve the best outcomes culminating with the development and implementation of performance-based strategies for FY2005 - FY 2007 national priorities that take into account environmental justice considerations and a workforce deployment analysis.

The EPA will also promote compliance in core program areas by working within the agency and with our partners to address major problems in media-specific programs with the most appropriate tool(s) to achieve the best outcomes. These efforts will be aided by use of a facility "Watch List" that identifies facilities with chronic noncompliance problems. EPA will use compliance data to identify problems in need of EPA or state attention, to monitor performance of Regional and media-specific program elements, and to improve the effectiveness of the program by incorporating lessons learned into program operations.

The Agency's "smart enforcement" approach uses the most appropriate enforcement or compliance tools to address the most significant

problems to achieve the best outcomes. This approach includes:

- **Compliance Assistance and Incentives:** The Agency's Enforcement and Compliance Assurance Program uses compliance assistance tools to encourage compliance with regulatory requirements and reduce adverse public health and environmental problems. To achieve compliance, the regulated community must first understand its regulatory obligations, and then learn how to best comply with those obligations. EPA supports the regulated universe by assuring that requirements are clearly understood, and by helping industry identify 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.
- **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 exist. The majority of work- years devoted to compliance monitoring are provided by the regions to conduct investigations, on-site inspections and evaluations, and perform monitoring, sampling and emissions testing. Compliance monitoring activities are both environmental media- and sector-based. The traditional media-based inspections and evaluations complement 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.
- **Enforcement:** The Enforcement Program addresses violations of environmental laws, to ensure that violators come into compliance with these laws and regulations. The program achieves the Agency's environmental goals through consistent, fair and focused enforcement of all environmental statutes. The overarching goal of the enforcement program is to protect human health and the environment,

- targeting its actions according to degree of health and environmental risk. Further, it aims to level the economic playing field by ensuring that violators do not realize an economic benefit from non-compliance, and seeks to deter future violations.
- Auditing and Evaluation Tools: 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 disclosures. It will also continue to measure and evaluate the effectiveness of Agency programs in improving compliance rates and provide information and compliance assistance to the regulated community. Further, the Agency will maintain its focus on developing innovative approaches, through better communication, fostering partnerships and cooperation, and the application of new technologies.
- Partnering: 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 develops and maintains productive partnerships with other nations, to ensure and enforce compliance with US environmental standards and regulations.
- NEPA Federal Review: EPA fulfills its uniquely federal responsibilities under the National Environmental Policy Act (NEPA). NEPA requires that federal agencies prepare and submit Environmental Impact Statements (EIS), to identify potential environmental consequences of major proposed activities, and develop plans to mitigate or eliminate negative impacts. The Agency maximizes its use of NEPA review resources by targeting its efforts toward potentially high-impact projects, and by promoting cooperation, innovation, and working towards a more streamlined review process.
- International: EPA will continue to cooperate with states and the international community to enforce and ensure compliance with cross-border environmental regulations, and to help build their capacity to design and implement effective

- environmental regulatory, enforcement and environmental impact assessment programs.

Improving Environmental Performance through Pollution Prevention and Innovation:

Preventing pollution through regulatory, voluntary, and partnership actions, that is, 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 change are industry and academia. The Agency has successfully implemented a number of pollution prevention (P2) programs with both of these groups. These programs address the market for products through the purchasing and supply chain, emphasize certain sectors for additional targeted technical assistance, provide support for State and Tribal infrastructure, and work to reduce the number and amount of toxic chemicals in use by finding alternative chemicals and alternative industry processes.

- Environmentally Preferable Purchasing: Because of the enormous span of private and public sector activities which would benefit from a prevention-based approach, EPA's P2 programs necessarily cover a wide variety of informational and capacity building activities. For example, the Agency works to improve the market for environmentally "greener" products through voluntary programs, the Environmentally Preferable Purchasing (EPP) Program, and the Green Suppliers Network. EPP provides guidance and carries out a variety of initiatives and outreach activities for a wide constituency, including federal agencies. Under the EPP Program, EPA will help purchasers identify those products that generate the least pollution, consume fewest non-renewable natural resources, and constitute the least threat to human health and to wildlife. The Green Suppliers Network enables large manufacturers to actively engage all levels of their supply chain in the development of good business approaches to prevent pollution.
- Pollution Prevention State Grants: The development and support of State infrastructure is essential for providing small and medium size businesses, government and schools with the opportunities to change and to test new technologies, processes and alternatives. A vital component of our strategy is the continuation of the Pollution

Prevention State Grant Program. In FY 2005, EPA will provide \$7 million to States and Tribes to support their efforts to provide industry with technical assistance, information sharing, and outreach. The grants also support promising, innovative ideas for preventing pollution.

- **Technical Assistance:** Sector-based technical assistance is another method to accomplish our mission. The Resource Conservation Challenge is a major national effort to find flexible, yet more protective ways to conserve our valuable resources through pollution prevention, waste reduction and energy recovery activities that will improve public health and the environment. EPA is working to address environmental problems in the electronics, buildings, hospitals, paper production, and priority chemicals areas under this comprehensive approach. Similarly, in an effort to expand voluntary pollution prevention strategies to the healthcare sector, the Hospitals for a Healthy Environment (H2E) Program works with hospitals and health care facilities to eliminate mercury use and reduce hospital wastes.
- **Green Chemistry:** EPA works to help industry further prevent pollution by adopting more efficient, sustainable and protective business practices, materials, and technologies. EPA's Green Chemistry Program supports research and fosters development and implementation of innovative chemical technologies to prevent pollution in a scientifically sound, cost-effective manner. The Green Engineering Program works to incorporate "green" or environmentally conscious thinking and approaches in the daily work of engineers, especially of chemical and environmental engineers. Similarly, EPA's Design for the Environment (DfE) Industry Partnership Program promotes integration of cleaner, cheaper, and smarter pollution prevention solutions into everyday business practices.
- **NEPA Federal Review:** EPA fulfills its uniquely federal responsibilities under the National Environmental Policy Act (NEPA). NEPA requires that federal agencies prepare and submit Environmental Impact Statements (EIS), to identify potential environmental consequences of major

proposed activities, and develop plans to mitigate or eliminate negative impacts. The Enforcement and Compliance Assistance Program maximizes its use of NEPA review resources by targeting its efforts toward potentially high-impact projects, and by promoting cooperation, innovation, and working towards a more streamlined review process.

- **Resource Conservation Challenge (RCC):** This program focuses on recovering materials and energy, either by converting wastes into products and energy directly or as a result of process and product redesigns that produce these benefits. We will closely coordinate our RCC efforts with the Agency's other pollution prevention activities, potentially revising our strategies or targets to focus on materials and energy recovery through recycling when source reduction is not a feasible solution. The Agency is also working with its partners to identify additional goals that will reflect our expanded effort, beginning in 2003, to increase recovery of materials and energy and reduce releases of priority chemicals in waste. We expect these new goals to be in place by 2004, as the program becomes fully operational.
- **State Innovation Grant Program:** EPA will develop and promote innovative environmental protection strategies that achieve better environmental results at a lower cost and also reward environmental stewardship. In collaboration with its state and Tribal partners, the Agency will continue to focus its efforts on innovations that will help small businesses and communities improve both their environmental performance and their bottom lines. A cornerstone of the Agency's Innovation Strategy is reaching out to states and tribes through the State Innovation Grant Program to promote, support and facilitate innovation in state and Tribal environmental programs. The Grant Program allows states and tribes to test innovative ideas, such as using Environmental Management Systems in the permitting system to improve environmental results while achieving resource efficiencies.
- **Regulatory and Economic Management and Analysis:** EPA is exploring the potential for more integrated, holistic, regulatory and

non-regulatory approaches at a facility level, building on experience with federal and State pilot programs for permitting and pollution prevention. EPA sees facility-wide approaches as holding the possibility of obtaining better environmental results, while eliminating unnecessary regulatory burdens. These approaches should help stimulate pollution prevention, and help facilities obtain the maximum benefit from use of environmental management systems. The Agency will augment programs such as EPA's National Environment Performance Track Program, which recognize and reward superior environmental performance and motivate improvements. Under its Sector Strategies Program, EPA will also tailor environmental performance improvement efforts to particular industry sectors.

- **Small Business:** EPA has undertaken an effort to review the current Agency Small Business Strategy. The new Strategy will guide the Agency in future efforts to understand the operations and needs of small businesses, consider those needs when developing and implementing programs and policies that affect them, and work effectively with the small business community to improve environmental performance.

Building Tribal Capacity: EPA's strategy for Tribes has three major components. First, work with Tribes to create an environmental presence for each federally recognized Tribe. An environmental presence allows most Tribes to support at least one or two persons working in their community to build a strong, sustainable environment for the future. These people 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. Second, provide the information needed by the Tribe to meet EPA and Tribal environmental priorities. At the same time, ensure EPA has the ability to view and analyze the conditions on Indian lands and the effects of EPA and

Tribal actions and programs on the environmental conditions. Third, provide the opportunity for implementation of Tribal environmental programs by

Tribes, or directly by EPA, as necessary.

Managing and Improving Environmental Data:

Through the Environmental Information Exchange Network (<http://www.exchange-network.net>), EPA will continue to provide funding to states, tribes, and territories to encourage and promote their data integration efforts and participation in the Network.¹ These grants will allow states and tribes to create "next generation" environmental data systems that integrate air, water, and waste data and provide the regulated community with efficient and reliable electronic means for reporting compliance information consistent with the President's Management Agenda and the goals of e-Government.

The National Environmental Information Exchange Network grant program encourages state and other partners' data integration efforts and their participation in the Network. State, Tribal, and EPA data on the Network will both facilitate understanding of various environmental issues and serve as a precursor to understanding the data needed to fully comprehend environmental conditions and trends and, thus, make better-informed environmental and human health decisions.

This program has four main parts: Network Readiness; Implementation; Collaboration; and Support Grants. These grants will increase state and Tribal capacity to integrate their environmental data, reduce reporting burden, enhance electronic reporting, provide public access to data, and participate in the Exchange Network.

Enhancing Science and Research: EPA's Compliance and Environmental Stewardship strategic goal is designed to protect human health and the environment by improving environmental behavior through regulatory and non-regulatory means. Under this goal, EPA strives to use science and research more strategically and effectively to inform Agency policy decisions and guide compliance, pollution prevention, and environmental stewardship efforts. In order to strengthen the scientific evidence and research supporting environmental policies and decisions, EPA works with its partners and stakeholders to identify research needs and set priorities. The Agency continues to conduct research on pollution prevention and new and developing technologies, with an overall aim of promoting conservation of energy and natural resources,

pollution prevention, recycling, and other aspects of environmental stewardship.

EPA also conducts 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 will also continue 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 threatening both human and environmental health, 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 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. The P2 research program will also focus on developing outcome goals to measure its performance.

Several mechanisms are in place to ensure a high-quality research program at EPA. The 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 SAB provides its findings to the House Science Committee and sends a written report on the finding to EPA's Administrator after every annual review. In addition, EPA's scientific and technical work products 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 2005 ANNUAL PERFORMANCE GOALS

Improve Compliance

By 2008, maximize compliance to protect human health and the environment through

compliance assistance, compliance incentives, and enforcement by achieving a 5 percent increase in the pounds of pollution reduced, treated, or eliminated,¹ and achieving a 5 percent increase in the number of regulated entities making improvements in environmental management practices.² (Baseline to be determined for 2005.)

Improve Environmental Performance through Pollution Prevention and Innovation.

By 2008, improve environmental protection and enhance natural resource conservation on the part of government, business, and the public through the adoption of pollution prevention and sustainable practices that include the design of products and manufacturing processes that generate less pollution, the reduction of regulatory barriers, and the adoption of results-based, innovative, and multimedia approaches.

Build Tribal Capacity

Through 2008, assist all federally recognized Tribes in assessing the condition of their environment, help in building their capacity to implement environmental programs where needed to improve Tribal health and environments, and implement programs in Indian Country where needed to address environmental issues.

Enhance Science and Research

Through 2008, strengthen the scientific evidence and research supporting environmental

¹"Pounds of pollutants reduced, treated, or eliminated" is an EPA measure of the quantity of pollutants that will no longer be released to the environment as a result of a non-complying facility returning to its allowable limits through the successful completion of an enforcement settlement. (Facilities may further reduce pollutants by carrying out voluntary Supplemental Environmental Projects.) On-line compliance information is available to the public via ECHO, at <http://www.epa.gov/echo/>.

²"Environmental management practices" refers to a specific set of activities EPA tracks to evaluate changes brought about through assistance, incentives, and concluded enforcement actions. Implementing or improving environmental management practices—for example, by changing industrial processes; discharges; or testing, auditing, and reporting—may assist a regulated facility in remaining in compliance with environmental requirements. Further information on environmental management practices is available at www.epa.gov/compliance/resources/publications/planning/caseconc.pdf.

policies and decisions on compliance, pollution prevention, and environmental stewardship.

HIGHLIGHTS

Improving Compliance

The Compliance Assistance Program strategically targets areas where regulated entities demonstrate an incomplete understanding of how they can best comply with regulatory requirements. The Agency's support of industry and government sector internet-based Compliance Assistance Centers greatly expands the reach of EPA's compliance assistance efforts. It provides educational tools and other assistance, such as workshops and on-site visits, to help increase understanding of regulatory obligations, improve environmental management practices and reduce pollution.

Other tools that are used include compliance incentives, voluntary programs, and innovative approaches designed to motivate better environmental compliance and performance by individuals, communities, businesses and industry sectors. The Agency promotes self-policing and improvement through incentives, such as EPA's Audit, Small Business and Small Local Governments policies and the inclusion of environmental management systems in enforcement actions.

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, and will be developed in conjunction with the Regional offices, with input from states, tribes, environmental justice representatives, and other stakeholders.

The Agency's Forensics Support Program provides technical support, including field sampling and measurement; forensic analytical chemistry; and computer forensic imaging, restoration and analysis. The forensics team consistently provides high-quality data and analyses, allowing the Agency to successfully investigate and prosecute the nation's most complex criminal and civil enforcement cases.

Improving Environmental Performance through Pollution Prevention and Innovation

In the 1990's, through the Pollution Prevention Act, Congress formally established a national policy to prevent or reduce pollution at its source whenever feasible. The Act defines P2 as

"...the use of materials, processes, or practices that reduce the use of hazardous materials, energy, water, or other resources and practices that protect natural resources through conservation or more efficient use."³

Major provisions of the Act include:

- Providing matching funds for State and local P2 programs through the PPIS grant program to promote P2 techniques by businesses
- Establishing a P2 strategy outlining the Agency's intent to promote source reduction and collect data on source reduction
- Operating a source reduction clearinghouse
- Mandating P2 reporting as part of TRI

There are also several Executive Orders that address Pollution Prevention. For example, Executive Order 13101, titled Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, strengthens federal mandates to protect the environment and promote economic growth through the purchase of environmentally preferable products.⁴ Using the purchasing power of the federal government is one way to help improve the market for environmentally preferable, recycled content, and bio-based products while protecting our natural resources and providing an example for private industry.

The Executive Order (EO) defines "environmentally preferable" as "products or services that have a lesser or reduced effect on human health and the environment when compared with competing products and services that serve the same purpose." The EO also states that products or services should be compared across the entire life cycle – from raw material acquisition to its final disposal at its end of life. EPA has several responsibilities under the EO, including developing guidance on environmentally preferable purchasing for federal agencies, and assisting federal agencies with conducting and documenting pilot projects. EPA has also developed tools to assist federal purchasers, including a database of environmental standards, case study of federal pilot projects, model contract language and other resources.

³ Pollution Prevention Act. *U.S. Code* Title 42, The Public Health and Welfare, Chapter 133, sec. 13101 b. Policy.

⁴ Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition - 63 *Federal Register* 49643. September 16, 1998.

Reducing pollution at its source involves two types of changes in behavior: making the greener products available, and increasing the demand for them. The Environmentally Preferable Purchasing (EPP) Program works to harness the purchasing power of government to stimulate demand for “greener” products and services, thereby fostering manufacturing changes. In FY 2005, the P2 program will shift resources to state grants and other P2 programs, which have shown significant results. The P2 research program will be evaluated to improve its performance and contribution to the Agency’s P2 efforts.

In FY 2005, the Agency also will continue to identify environmental performance standards by which products can be evaluated, and invest in the development of tools, such as life-cycle analysis tools that businesses and purchasers can use to evaluate the environmental performance of products. In FY 2005, the Agency will continue to focus on providing tools, resources and models to federal agencies on a number of product categories, including electronics, janitorial services, and meetings/conferences. EPA will also continue its efforts to meet its own goals to green its own facilities and operations, including purchasing.

The voluntary Green Suppliers Network (GSN) builds on the premise that cost effective manufacturing, pollution prevention and environmental protection can be the result of good business planning and practice. The GSN uses the purchasing power of the private sector to achieve pollution prevention and manufacturing efficiencies throughout the supply chain. In FY 2005 the GSN will continue to develop and enhance partnerships with the aerospace, healthcare/pharmaceutical, office/home furniture, farm and construction, and automotive sectors. The Agency expects to explore GSN with other federal agencies, replication of the program internationally, and working with new sectors, such as the truck/bus and appliance manufacturing sectors.

Through voluntary partnerships with academia, industry, and other government agencies, Green Chemistry supports fundamental research in environmentally benign chemistry and provides a variety of educational and international activities, including sponsoring conferences and meetings and developing tools. The Presidential Green Chemistry Challenge Award Program recognizes superior achievement in the design of chemical products, and continues to quantitatively demonstrate the scientific, economic, and environmental benefits that green

chemistry technologies offer.⁵ In FY 2005, the program will explore ways to increase the number and effectiveness of incentives, and to reduce the barriers to mainstreaming green chemistry practices.

Traditionally, engineering approaches to pollution prevention have been focused on waste minimization and have not addressed such risk factors as exposure, fate, and toxicity. EPA’s Green Engineering Program promotes consideration of these factors in the design, commercialization, and use of chemical products and the development of feasible, economical processes that minimize generation of pollution at the source. In FY 2005, the program will focus on the implementation of specific activities that provide quantifiable environmental benefits, particularly in industrial applications. The program will continue to partner with research institutions on their green engineering/sustainable research projects and collect data on the application of Green Engineering approaches and tools, with an emphasis on gathering information from people and organizations that have already received green engineering training and have adopted green engineering approaches.

The Design for the Environment Program will continue to work with industry sectors to reduce risks to human health and the environment, improve performance, and save costs associated with existing and alternative pollution prevention technologies or processes. In FY 2005, the program expects to initiate one to three new projects. The program will also implement, as part of any new partnership building activities, evaluation guidelines for developing and collecting measures, building on program-wide analysis and evaluation that will be completed in FY 2004.

Pollution Prevention State Grants provide funds to build pollution prevention strategies into State government environmental protection programs, encourage innovative and non-regulatory pollution prevention solutions and encourage government/industry partnerships. Pollution Prevention State Grants are unique within EPA because they address cross-media and multi-media environmental impacts at the source, rather than end-of-pipe.

The Agency’s innovation programs are demonstrating significant results. For example, in

⁵ U.S. EPA, Office of Pollution Prevention and Toxics, *Green Chemistry Challenge*. Accessed October 1, 2003. Available at <http://www.epa.gov/greenchemistry/index.html>.

FY 2003, The Performance Track Program added 61 new members, bringing the total number of members to 320. The Program's first progress report showed that in FY 2001 Performance Track facilities reduced energy use by 1.1 million MMBTUs, reduced hazardous materials use by 908 tons, and increased their use of recycled and reused materials by 10,823 tons. (www.epa.gov/sectors/)

EPA expanded its partnerships with industry sectors in FY 2003. Eight new sectors (agribusiness, cement manufacturing, colleges and universities, construction, forest products, iron and steel manufacturing, paint and coatings, and ports) committed to work collaboratively to improve environmental management while also addressing regulatory and other barriers to improve performance and increase efficiencies. (www.epa.gov/sectors/)

Past performance demonstrates remarkable progress in delivering results. For example, in FY 2003, EPA assisted more than ten states in continuing support of twenty-one innovative projects approved in previous years and in approving eight new innovative projects. These projects achieved a broad range of efficiency gains by: enhancing the infrastructure to recycle electronic waste, streamlining permitting, better coordinating non-point and point sources to meet Total Maximum Daily Loads, supporting streamlined state authorization procedures, and improving compliance monitoring for small drinking water systems. These projects' also invested in less energy demanding alternative technology at pulp and paper facilities, alternative landfill technology to increase landfill capacity, and increased recycling of hazardous wastes.

During the same year, EPA also awarded grants to three states to test innovative concepts in permitting. First, the funding provided under the State Innovation Grant Program allowed the State of Arizona to develop a web-based, Aintelligent@ screening and permit application program for storm water permits that will increase the efficiency of the permitting process. Second, Delaware will develop an auto body sector Environmental Results Program (ERP) modeled after other state ERP projects, such as Rhode Island and Florida. The Delaware ERP project expects to significantly improve environmental compliance in hundreds of small businesses state-wide. Third, Massachusetts will develop a watershed-based permitting program to improve water quality on a National Heritage Waterway.

The Environmental Results Program model that originated in Massachusetts has expanded to seven other states and the District of Columbia with projects being implemented across seven business sectors: dry cleaners, printers, photoprocessors, auto repair facilities, auto salvage yards, auto body shops, gasoline stations (underground storage tanks and Stage II vapor recovery systems).

Research

In FY 2005, 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. EPA will improve FY 2005 performance measures to prevent pollution at its source and continue to evaluate a small set of environmental technologies through the Environmental Technology Verification (ETV) program. ETV is a voluntary, market-based verification program for commercial-ready technologies. In FY 2005, the ETV program will complete 15 additional verifications and two testing protocols. In addition, the program will evaluate whether verifications and testing protocols have led to increased use of environmental technologies.

Additionally, through the National Environmental Technology Competition (NETC), based on results from field demonstrations of one-year in duration, EPA will recognize innovative technologies that cost-effectively remove arsenic from drinking water to help small communities meet the new arsenic drinking water standard. Other work includes research on market mechanisms and incentives that will support investigations that explore the conditions under which financial and other performance incentives will achieve environmental objectives at a lower cost or more effectively than traditional regulatory approaches.

EXTERNAL FACTORS

The Agency's Enforcement and Compliance Assurance 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, requiring 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, successful conclusion of 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 adequate resources to modernize and maintain our 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.

In the area of pollution prevention, the Agency's work is almost entirely dependent on voluntary partnerships, collaboration, and persuasion, since there are few environmental regulations that set specific source-reduction requirements. The Design for the Environment Program seeks partnerships with industry trade associations to engage jointly in the development and marketing of products that generate less pollution. The Green Chemistry Program challenges industry and the academic community to step forward with new chemical formulations that pose fewer risks to human health and the environment. EPA's strategy of "greening the supply chain" depends on the willingness of large manufacturers to voluntarily require their suppliers to provide environmentally preferable products. These efforts all depend on our partners' continued willingness to cooperate in joint endeavors that may not realize an immediate payoff. EPA's ability to carry out its voluntary pollution prevention initiatives could be reduced if partners begin to believe that the initiatives are not worthwhile, are too risky, or are otherwise contrary to their best interests. Historically however, this has not been the case, and the Agency and industry have worked well together to reduce pollution.

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. Further, shrinking state budgets have underscored the critical need for the State Innovations Grants Program.

EPA's policy has been, and continues to be, that Tribes develop the capability to implement federal programs themselves. However, in working with Tribes, EPA has realized that "Treatment as a State" (TAS) may 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. 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.

Achieving our objectives 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 Tribes.

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 high quality science is a central tenant for actions taken by the Agency, then

external factors will have a minimal impact on the goal.

Resource Summary
(Dollars in thousands)

	FY 2003	FY 2004	FY 2005	FY 2005 Req. v.
	Actuals	Pres. Bud.	Pres. Bud.	FY 2004 Pres Bud
Compliance and Environmental Stewardship	\$662,042.0	\$712,907.9	\$750,556.9	\$37,649.0
Improve Compliance	\$395,964.4	\$418,998.2	\$431,695.1	\$12,696.9
Improve Environmental Performance through Pollution Prevention and Innovation	\$123,311.5	\$137,968.5	\$169,802.0	\$31,833.5
Build Tribal Capacity	\$70,556.6	\$78,759.3	\$78,931.1	\$171.7
Enhance Science and Research	\$72,209.6	\$77,181.8	\$70,128.7	(\$7,053.1)
Total Workyears	3,492.9	3,489.3	3,547.4	58.1

OBJECTIVE: Improve Compliance

By 2008, maximize compliance to protect human health and the environment through compliance assistance, compliance incentives, and enforcement by achieving a 5 percent increase in the pounds of pollution reduced, treated, or eliminated, and achieving a 5 percent increase in the number of regulated entities making improvements in environmental management practices. (Baseline to be determined for 2005.)

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Improve Compliance	\$395,964.4	\$418,998.2	\$431,695.1	\$12,696.9
Building & Facilities	\$3,312.5	\$5,158.7	\$4,149.5	(\$1,009.2)
Environmental Program & Management	\$346,291.1	\$371,655.6	\$383,218.7	\$11,563.1
Hazardous Substance Superfund	\$16,436.1	\$13,056.6	\$15,116.8	\$2,060.2
Inspector General	\$1,475.2	\$1,827.3	\$1,910.1	\$82.8
Science & Technology	\$268.0	\$0.0	\$0.0	\$0.0
State and Tribal Assistance Grants	\$28,181.5	\$27,300.0	\$27,300.0	\$0.0
Total Workyears	2,555.4	2,529.4	2,587.4	58.0

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Categorical Grant: Pesticides Enforcement	\$20,341.8	\$19,900.0	\$19,900.0	\$0.0
Categorical Grant: Toxics Substances Compliance	\$5,229.8	\$5,150.0	\$5,150.0	\$0.0
Categorical Grant: Sector Program	\$2,609.9	\$2,250.0	\$2,250.0	\$0.0
Compliance Monitoring	\$56,567.5	\$58,155.0	\$62,216.7	\$4,061.7
Criminal Enforcement	\$40,448.5	\$38,076.8	\$39,990.7	\$1,828.9
Enforcement Training	\$4,661.5	\$4,038.6	\$4,058.1	\$19.5
Compliance Incentives	\$9,589.0	\$9,257.2	\$9,370.7	\$113.5
Compliance Assistance and Centers	\$25,054.3	\$27,205.8	\$27,759.1	\$553.3
Civil Enforcement	\$100,366.7	\$108,318.4	\$113,030.5	\$4,712.1
International Capacity Building	\$1,460.7	\$1,051.5	\$862.4	(\$189.1)
Homeland Security: Critical Infrastructure Protection	\$4,181.1	\$3,901.9	\$3,972.4	\$70.5
Administrative Projects	\$125,453.6	\$141,693.0	\$143,219.5	\$1,526.5
TOTAL	\$395,964.4	\$418,998.2	\$431,695.1	\$12,696.9

ANNUAL PERFORMANCE GOALS AND MEASURES**Non-Compliance Reduction**

In 2005 Through monitoring and enforcement actions, EPA will increase complying actions, pollutant reduction or treatment, and improve EMP.

In 2004 EPA will direct enforcement actions to maximize compliance and address environmental and human health problems.

In 2003 EPA will directed enforcement actions to maximize compliance and address environmental and human health problems.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Millions of pounds of pollutants required to be reduced through enforcement actions settled this fiscal year.(core optional)	600	350		M pounds
Number of EPA inspections conducted (core required)	18,880	15,500		inspections
Pounds of pollution estimated to be reduced, treated, and eliminated as a result of concluded enforcement actions.			300	million pounds
Percentage of concluded enforcement cases (including SEPs) requiring that pollutants be reduced, treated, or eliminated and protection of populations or ecosystems.			30	Percentage
Percentage of concluded enforcement cases (including SEPs) requiring implementation of improved env. management practices.			60	percentage
Number of inspections, civil investigations and criminal investigations conducted.			18,500	insp&inv.
Dollars invested in improved env. performance or improved EMP as a result of concluded enforcement actions (i.e., injunctive relief and SEPs)			4 billion	Dollars
Percentage of regulated entities taking complying actions, as a result of compliance monitoring.			10	percentage
Percent of concluded enforcement actions that require an action that results in environmental benefits and/or changes in facility management or information practices.	63	75		Percent
Number of Criminal Investigations	471	400		Investigations
Number of Civil Investigations	344	225		Investigations

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 reducing the amount of time 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.

Compliance Incentives

In 2005 Through self-disclosure policies, EPA will increase the percentage of facilities reducing pollutants or improving EMP.

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 Increased opportunities through new targeted sector initiatives for industries to voluntarily self-disclose and correct violations on a corporate-wide basis.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Percentage of audits or other actions that result in the reduction, treatment, or elimination of pollutants; and the protection of populations or ecosystems.			5	percentage
Percentage of audits or other actions that result in improvements in env. management practices.			10	Percentage
Pounds of pollutants reduced, treated, or eliminated, as a result of audit agreements or other actions.			.25 million	Pounds
Dollars invested in improving environmental management practices as a result of audit agreements or other actions.			2 million	dollars
Facilities voluntarily self-disclose and correct violations with reduced or no penalty as a result of EPA self-disclosure policies.	848	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 2005 Through compliance assistance, EPA will increase the understanding of regulated entities, improve Environmental Management Practices, and reduce pollutants.

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

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Number of facilities, states, technical assistance providers or other entities reached through targeted compliance assistance (core optional)	721,000	500,000		Entities
Percentage of regulated entities seeking assistance from EPA-sponsored CA centers and clearinghouse reporting that they improved EMP as a result of their use of the centers or the clearinghouse.			60	percentage
Percentage of regulated entities receiving direct compliance assistance from EPA (e.g., training, on-site visits) reporting that they improved EMP as a result of EPA assistance.			50	Percentage
% of regulated entities seeking assistance from EPA-sponsored CA centers and clearinghouse reporting that they reduced, treated, or eliminated pollution as a result of that resource.			25	Percentage
% of regulated entities seeking assistance from EPA-sponsored CA centers and clearinghouse reporting that they increased their understanding of env. rqmts. as a result of their use of the resources.			75	Percentage
% of regulated entities receiving direct CA from EPA (e.g., training, on-site visits) reporting that they increased their understanding of env. rqmts. as a result of EPA assistance.			65	percentage
% of regulated entities receiving direct assistance from EPA (e.g., training, on-site visits) reporting that they reduced, treated, or eliminated pollution, as a result of EPA assistance.			25	percentage

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 2005 PERFORMANCE MEASURE:

Percentage of concluded enforcement cases (including SEPs) requiring that pollutants be reduced, treated, or eliminated and protection of populations or ecosystems.

Pounds of pollution estimated to be reduced, treated, or eliminated as a result of concluded enforcement actions.

Percentage of concluded enforcement cases (including SEPs) requiring implementation of improved environmental management practices.

Dollars invested in improved environmental performance or improved environmental management practices as a result of concluded enforcement actions (i.e., injunctive relief and SEPs).

Percentage of audits or other actions that result in the reduction, treatment, or elimination of pollutants and protection of populations or ecosystems.

Percentage of audits or other actions that result in improvements in environmental management practices.

Pounds of pollutants reduced, treated, or eliminated as a result of audit agreements or other actions.

Dollars invested in improved environmental management practices as a result of audit agreements or other actions.

Performance Database: The Integrated Compliance Information System, (ICIS), which tracks EPA civil enforcement (e.g., judicial and administrative) 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 begins preparing 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 documents whether 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. The Criminal Enforcement Program also maintains a separate case conclusion data form and system for compiling and analyzing the results of criminal enforcement prosecution.

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.

Quality Management Plans (QMPs) are prepared for each Office within The Office of Enforcement and Compliance Assurance (OECA). The Office of Compliance (OC) has established extensive processes for ensuring timely input, review and certification of ICIS information in FY'03. OC's QMP, effective for 5 years, was approved July 29, 2003. OECA instituted a requirement for semiannual executive certification of the overall accuracy of information to satisfy the GPRA, the Agency's information quality guidelines, and other significant enforcement and compliance policies on performance measurement.

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 FY 2002 [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. OC's Quality Management Plan was approved by OEI July 29, 2003, and is effective for five years. [See references]

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 2005 Performance Measure: Number of inspections, civil investigations, and criminal investigations conducted

Performance Databases: Output measure. 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). 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: EPA's regional and Headquarters' offices. U.S. EPA-CID 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. For CRIMDOC, 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: EPA is now using updated monitoring strategies [See references] which clarify reporting definitions and enhances oversight of state and local compliance monitoring programs. In FY2003, OECA instituted a requirement for semiannual executive certification of the overall accuracy of information to satisfy the GPRA, the Agency's information quality guidelines, and other significant enforcement and compliance policies on performance measurement.

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 targets for numbers of inspections, and civil and criminal investigations are based on the resources redirected to the state and Tribal enforcement grant program.

Error Estimate: N/A

New & Improved Data or Systems: PCS modernization is underway and the first version is scheduled to be released in December 2005. An Interim Data Exchange Format (IDEF) has been established and will support the transfer of data from modernized state systems into the current PCS data system while PCS is being modernized. EPA is addressing the quality of the data in the major systems and each Office within OECA has developed a Quality Management Plan (data quality objectives, quality assurance project plans, baseline assessments). A new Integrated Compliance Information System (ICIS) supports core program needs and consolidates and streamlines existing systems. Additionally, OECA began implementing its Data Quality Strategy in FY 2002. A new case management, tracking and reporting system (Case Reporting System) is currently being developed that will replace CRIMDOC. This new system will be a more user-friendly database with greater tracking, management and reporting capabilities.

References: Clean Air Act Compliance Monitoring Strategy, April 25, 2001, www.epa.gov/compliance/resources/policies/monitoring/cmstrategy.pdf
AFS: <http://www.epa.gov/compliance/planning/data/air/afssystem.html>.
PCS: <http://www.epa.gov/compliance/planning/data/water/pcssys.html>.
RCRA info: <http://www.epa.gov/epaoswer/hazwaste/data/index.htm>.
For CRIMDOC: 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).
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

FY 2005 Performance Measure: Percentage of regulated entities taking complying actions as a result of compliance inspections and evaluations.

Performance Databases: ICIS and manual reporting by regions

Data Sources: EPA regional offices and Office of Regulatory Enforcement (specifically, the Clean Air Act (CAA)-Mobile Source program).

Methods, Assumptions and Suitability: A new measurement tool, the Inspection Conclusion Data Sheet, (ICDS) will be used to analyze 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. The inspectors fill out the

Inspection Conclusion Data Sheet (ICDS) for each inspection and that information is reported to ICIS by the Regions.

QA/QC Procedures: ICIS has been developed per Office of Information Management **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: Regional manual reports are reviewed and checked against the inspection data entered into other Agency databases (Air Facilities Subsystem (AFS), Permit Compliance System (PCS), Online Tracking Information System (OTIS), Integrated Data for Enforcement Analysis (IDEA)). Information contained in the CCDS and ICIS are required by policy to be reviewed by regional and headquarters' staff for completeness and accuracy. In FY2003, OECA instituted a requirement for semiannual executive certification of the overall accuracy of information to satisfy the GPRA, the Agency's information quality guidelines, and other significant enforcement and compliance policies on performance measurement.

Data Limitations: ICIS is not currently the primary database for inspections and as a result the regions have to enter inspection data into both ICIS and other Agency databases. This can result in redundant, incomplete, or contradictory data.

Error Estimate: N/A

New & Improved Data or Systems: The new Integrated Compliance Information System (ICIS) will support core program needs and consolidate and streamline existing systems. As ICIS becomes more widely used by the regions and HQ programs some of the problems with data entry and reporting should be resolved. As various older systems become modernized (e.g., PCS), they will incorporate the ICDS data set as part of the system. This should minimize data entry and reporting problems.

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).

FY 2005 Performance Measure:

Percentage of regulated survey respondents seeking assistance from EPA-sponsored compliance assistance centers and clearinghouse reporting that they improved environmental management practices as a result of their use of the centers or the clearinghouse.

Percentage of regulated survey respondents seeking assistance from EPA-sponsored compliance assistance centers and clearinghouse reporting that they reduced, treated, or eliminated pollution as a result of their use of the centers or the clearinghouse.

Percentage of regulated survey respondents seeking assistance from EPA-sponsored compliance assistance centers and clearinghouse reporting that they increased their understanding of environmental requirements as a result of their use of the centers or the clearinghouse.

Performance Database: In FY2005, EPA Headquarters will manage data on the performance of the Centers and Clearinghouse respondents using ICIS (Integrated Compliance Information System) and will no longer operate and maintain the Reporting Compliance Assistance Tracking System (RCATS).

Data source: Headquarters and EPA's Regional offices will enter information in ICIS upon completion and delivery of media and sector-specific compliance assistance including workshops, training, on-site visits and distribution of compliance assistance tools. ICIS is designed to capture outcome measurement information such as increased awareness/understanding of environmental laws, changes in behavior and environmental improvements as a result of the compliance assistance provided.

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: Automated data checks and data entry guidelines are in place for ICIS.

Data Quality Reviews: Information contained in the ICIS is reviewed by Regional and Headquarters staff for completeness and accuracy. In FY2003, OECA instituted a requirement for semiannual executive certification of the overall accuracy of information to satisfy the GPRA, the Agency's information quality guidelines, and other significant enforcement and compliance policies on performance measurement.

Data Limitations: None

Error Estimate: None

New/Improved Data or Systems: EPA plans to incorporate RCATS into ICIS in FY2004.

References: Reporting Compliance Assistance Data in the Integrated Compliance Information System (ICIS), January 9, 2004. RCATS: U.S. EPA Office of Enforcement and Compliance Assurance. Internal EPA database. Guidance: RCATs User Guide of March 19, 2001.

FY 2005 Performance Measure:

Percentage of regulated entities receiving direct compliance assistance from EPA (e.g., training, on-site visits) reporting that they improved environmental management practices as a result of EPA assistance.

Percentage of regulated entities receiving direct compliance assistance from EPA (e.g., training, on-site visits) reporting that they increased their understanding of environmental requirements as a result of EPA assistance.

Percentage of regulated entities receiving direct assistance from EPA (e.g., training, on-site visits) reporting that they reduced, treated, or eliminated pollution, as a result of EPA assistance.

Performance Database: EPA Headquarters will manage data on the performance of the Centers and clearinghouse respondents using ICIS (Integrated Compliance Information System) in FY05 and will no longer operate and maintain the Reporting Compliance Assistance Tracking System (RCATS).

Data source: Headquarters and EPA's Regional offices will enter information in ICIS upon completion and delivery of media and sector-specific compliance assistance including workshops, training, on-site visits and distribution of compliance assistance tools. ICIS is designed to capture outcome measurement information such as increased awareness/understanding of environmental laws, changes in behavior and environmental improvements as a result of the compliance assistance provided.

Methods, Assumptions and Suitability: N/A

QA/QC: Automated data checks and data entry guidelines are in place for ICIS.

Data Quality Review: Information contained in the ICIS is reviewed by Regional and Headquarters staff for completeness and accuracy. In FY2003, OECA instituted a requirement for semiannual executive certification of the overall accuracy of information to satisfy the GPRA, the Agency's information quality guidelines, and other significant enforcement and compliance policies on performance measurement.

Data Limitations: None

Error Estimate: None

New & Improved Data or Systems: EPA plans to incorporate RCATS into ICIS in FY2004.

References: Reporting Compliance Assistance Data in the Integrated Compliance Information System (ICIS), January 9, 2004. RCATS: U.S. EPA Office of Enforcement and Compliance Assurance. Internal EPA database. Guidance: RCATs User Guide of March 19, 2001.

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

Clean Air Act (CAA) (42 U.S.C. 7601-7671q)
Clean Water Act (CWA) (33 U.S.C. 1251 - 1387)
Clinger-Cohen Act
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. 9601-9675)
Computer Security Act
Congressional Review Act
Congressional Review Act
CPRKA of 1986
Emergency Planning and Community Right-to-Know Act (EPCRA) section 313 (42 U.S.C. 110001-11050)
Emergency Planning and Community Right-to-Know Act (EPCRA) section 313 (42 U.S.C. 110001-11050)
Enterprise for the Americas Initiative Act (7 U.S.C. 5404)
Environmental Research, Development, and Demonstration Act (ERDDA) of 1981
Executive Order 12866
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
Executive Order 13148, "Greening the Government through Leadership in Environmental Management"
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)
Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) (7 U.S.C. 136-136y)
Federal Managers Financial Integrity Act (FMFIA)
Food Quality Protection Act (FQPA)
Freedom of Information Act (FOIA) (5 U.S.C. 552)
Government Paperwork Elimination Act (GPEA)
Government Performance and Results Act (GPRA)
National Environmental Education Act
North American Agreement on Environmental Cooperation
Paperwork Reduction Act Amendment of 1995 (44 U.S.C. 3501-3520)
Plain Language Executive Order
Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)
Privacy Act

Regulatory Flexibility Act

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)

Small Business Regulatory Enforcement Fairness Act

Toxic Substance Control Act section 14 (TSCA) (15 U.S.C. 2601-2692)

Unfunded Mandates Reform Act

OBJECTIVE: Improve Environmental Performance through Pollution Prevention and Innovation

By 2008, improve environmental protection and enhance natural resource conservation on the part of government, business, and the public through the adoption of pollution prevention and sustainable practices that include the design of products and manufacturing processes that generate less pollution, the reduction of regulatory barriers, and the adoption of results-based, innovative, and multimedia approaches.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Improve Environmental Performance through Pollution Prevention and Innovation	\$123,311.5	\$137,968.5	\$169,802.0	\$31,833.5
Environmental Program & Management	\$97,351.3	\$104,608.4	\$113,104.3	\$8,495.9
Building and Facilities	\$1,557.8	\$1,635.3	\$1,769.6	\$134.3
State and Tribal Assistance Grants	\$23,874.4	\$31,000.0	\$54,000.0	\$23,000.0
Inspector General	\$528.0	\$724.8	\$928.1	\$203.3
Total Workyears	544.2	556.1	562.6	6.5

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Categorical Grant: State and Tribal Performance Fund	\$0.0	\$0.0	\$23,000.0	\$23,000.0
Small Business Ombudsman	\$3,048.6	\$3,764.9	\$3,838.7	\$73.8
Categorical Grant: Environmental Information	\$18,514.0	\$25,000.0	\$25,000.0	\$0.0
Categorical Grant: Pollution Prevention	\$5,360.4	\$6,000.0	\$6,000.0	\$0.0
NEPA Implementation	\$11,204.2	\$12,315.4	\$12,654.2	\$338.8
Pollution Prevention Program	\$15,450.3	\$17,098.7	\$22,496.2	\$5,397.5
Regulatory/Economic-Management and Analysis	\$21,261.8	\$18,468.6	\$18,551.8	\$83.2
Environmental Education	\$5,281.0	\$0.0	\$0.0	\$0.0
Congressionally Mandated Projects	\$1,950.5	\$0.0	\$0.0	\$0.0
RCRA: Waste Minimization & Recycling	\$3,325.9	\$4,134.2	\$4,193.8	\$59.6
Regulatory Innovation	\$7,357.9	\$19,390.5	\$19,349.5	(\$41.0)
Administrative Projects	\$30,556.9	\$31,796.2	\$34,717.8	\$2,921.6
TOTAL	\$123,311.5	\$137,968.5	\$169,802.0	\$31,833.5

ANNUAL PERFORMANCE GOALS AND MEASURES**GOAL: COMPLIANCE AND ENVIRONMENTAL STEWARDSHIP****OBJECTIVE: IMPROVE ENVIRONMENTAL PERFORMANCE THROUGH POLLUTION PREVENTION AND INNOVATION****Reduction of Industrial / Commercial Chemicals**

In 2005 Prevent, reduce and recycle hazardous industrial/commercial chemicals and improve environmental stewardship practices.

In 2004 Prevent, reduce and recycle hazardous industrial/commercial chemicals and municipal solid wastes.

In 2003 FY 2003 data will be available in 2005 to verify 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 two percent, from 2002.

Performance Measures:	FY 2003 Actuals Data lag	FY 2004 Pres. Bud. 200 Million	FY 2005 Pres. Bud.	
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
Percent reduction in Toxics Release Inventory (TRI) reported toxic chemical releases at Federal Facilities.			32%	Releases (Cum)
Percent reduction in both Toxics Release Inventory (TRI) chemical releases to the environment from the business sector per unit of production ("Clean Index")			20%	Releases (Cum)
Percent reduction in TRI chemicals in production-related wastes generated by the business sector per unit of production ("Green Index").			10%	Waste (Cum)
Reduction in overall pounds of pollution.			34 Billion	Pounds (Cum)
Millions of dollars saved through reductions in pollution.			134 Million	Dollars (Cum)
Annual cumulative quantity of water conserved			1.5 billion	Gallons (Cum)
Billions of BTUs of energy conserved.			143 Billion	BTU (Cum)

Baseline: The baseline for the TRI non-recycled wastes measure is the amount of non-recycled wastes in 2001 reported 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. The baseline reference point for reductions of pollution and conservation of BTUs and water will be zero for 2003. The baseline for money saved will be 2003. The baseline for reduction in CO2 will be zero for 1996. The baseline for the Clean and Green Index would be 2001 levels. The baseline for chemical releases is 2001 level. The baseline for chemical production related wastes is 2001 level. Note: Several output measures were changed to internal-only reporting status in 2005. Annual Performance measures under development for EPA's Environmentally Preferable Purchasing program for the FY2006 Annual Performance Plan.

Innovation Activities

In 2005 Performance Track members collectively will achieve an annual reduction of 600 million gallons in water use; 2.5 million MMBTUs in energy use; 15,000 tons of solid waste; 6,000 tons of air releases; and 10,000 tons in water discharges, compared with 2001 results.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud. 5	media reductions
Specific annual reductions in five media/resource areas: water use, energy use, solid waste, air releases, and water discharges.				

Baseline: The baseline year is 2001. The FY 2005 specific reductions planned are that Performance Track members collectively will achieve annual reductions, compared with 2001, of 600M gallons of water used; 2.5M MMBTUs of energy used; 15,000 tons of solid waste; 6,000 tons of air releases; and 10,000 tons of water discharges.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Performance Measure:

Percent reduction in both Toxics Release Inventory (TRI) chemical releases to the environment from the business sector per unit of production ("Clean Index").

Percent reduction in TRI chemicals in production-related wastes generated by the business sector per unit of production ("Green Index").

Percent reduction in Toxics Release Inventory (TRI) reported toxic chemical releases at Federal Facilities.

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 that are 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 are 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 the Clean and Green Index performance measures, 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 U.S. Bureau of Economic Analysis (BEA) gross product indices (chain-type quantity index for the manufacturing sector). [Please note, the federal facility measure data are not normalized to control for changes in production].

QA/QC Procedures: Most facilities use EPA-certified automated Toxics Release Inventory (TRI) FORM R reporting tools, which contain 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.

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; 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.

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 Bureau of Economic Analysis (BEA) indices are available at <http://www.bea.gov/bea/regional/gsp/>

FY 2005 Performance Measure:

- **Reduction in overall pounds of pollution**
- **Billions of BTUs of energy conserved**
- **Billions of gallons of water saved**
- **Millions of dollars saved through reductions in pollution**
- **Reduction in carbon dioxide (CO₂) emissions from a baseline year of 1996. (Green Chemistry only)**

The Agency's Pollution Prevention programs include Green Chemistry, Design for the Environment, Green Engineering, and other Pollution Prevention (P2) Programs. Each of these programs operate under the principles of the Pollution Prevention Act and work with others to reduce waste at the source, before it is generated. These programs are designed to facilitate the incorporation of pollution prevention concepts and principles into the daily operations of government agencies, businesses, manufacturers, nonprofit organizations, and individuals.

Performance Database:

Green Chemistry (GC): EPA is developing an electronic database ("metrics" database) which will allow organized storage and retrieval of green chemistry data submitted to EPA on alternative feedstocks, processes, and safer chemicals. The database is being designed to store and retrieve, in a 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.

Design for the Environment (DfE): DfE does not have a performance database. Instead, DfE is planning to develop an evaluation spreadsheet for its main project approaches (i.e., Life Cycle Assessment, Formulator, Best Practices, Cleaner Technology Substitutes Assessment, and Supply Chain). Spreadsheet content will vary by approach, and generally will include measures comparing baseline technologies or products to "cleaner" ones, as well as information on partner adoption and/or market share of cleaner alternatives; for example, the DfE formulator approach tracks chemical improvements (such as pounds of chemicals of concern no longer used by partners, and conversely pounds of safer ingredients) and resource savings. This information will allow benefit calculations.

Green Engineering (GE): Similar to the Green Chemistry Program, EPA will be developing an electronic database to keep track of environmental benefits of GE projects including, gallons of water, British Thermal Units (BTUs) and dollars saved and pounds of carbon dioxide (CO₂) emissions eliminated.

Pollution Prevention (P2) Programs: EPA is working with state and local P2 programs to develop a national database that will provide data on environmental outcomes (the core P2 metrics included in the above performance measure). Many EPA Regional offices', state and local P2 programs are currently collecting data on P2 program activities, outputs, and outcomes. EPA will be working with these programs to reach consensus on standardized metrics, including definitions, and to establish an ongoing system to gather data on these metrics. The system will include new reporting requirements in EPA P2 grants and the cooperation of key stakeholder groups, such as the National Pollution Prevention Roundtable (which produced a January 2003 report providing baseline data on the above metrics for the period 1990-2000). Data collected from the program will be placed in a new national database, facilitating convenient data storage and retrieval.

Data Source:

Green Chemistry (GC): Industry and academia submit nominations annually to OPPT in response to the Presidential Green Chemistry Challenge Awards. Environmental and economic benefit information is included in the nomination packages. The metrics database pulls this benefit information from the nominations.

Design for the Environment (DfE): The source of DfE's evaluation information varies by the approach and the partner industry. For example, in DfE's formulation improvement partnerships, partners provide proprietary information on both their original formulation and their environmentally improved one. Partners sign a memorandum of understanding with EPA/DfE which includes information on how the company uses cleaner chemistry to formulate a product, the environmental and health benefits of the product, and customer and sales information. For other partnerships, data sources typically include technical studies (e.g., cleaner technology substitutes assessments, life-cycle assessments) and market/sales/adoption information from associations.

Green Engineering (GE): Data will come from profiles of recognized projects by technical journals or organizations, such as the American Institute of Chemical Engineers, or directly reported by project leaders on industry projects or joint academia-industry projects.

Pollution Prevention (P2) Programs: State and local P2 programs will submit data as described above.

Methods, Assumptions, and Suitability:

Green Chemistry (GC): This is an output measure tracked directly through OPPT record-keeping systems. No models or assumptions or statistical methods are employed.

Design for the Environment (DfE): Methods and assumptions vary by approach and partner industry. Each DfE partnership identifies and focuses on a unique set of chemicals and industrial processes. For most DfE approaches, the general method is to 1) develop a model for a “typical” or “average” facility, 2) assess the differences between traditional and alternative technologies on metrics such as toxics use, resource consumption, cost, and performance, 3) track market share of alternative technologies over time, and 4) multiply the increase in use of alternative, cleaner technologies by the environmental, cost, and performance differences identified in Step 2. Through this quantitative process, the Agency is able to calculate the benefits generated by the cleaner technology: e.g. how much toxics use reduction is occurring, how much less resources are consumed? Similarly, for DfE’s formulation improvement approach, the method is to analyze environmental (e.g., toxics use, resource consumption) and cost differences between the old and improved formulations. This proprietary information is provided by our partners and sales information. For each approach, we will develop a spreadsheet that includes the methods and assumptions.

Green Engineering (GE): The information will be tracked directly through EPA record keeping systems. No models or statistical extrapolations are expected to be used.

Pollution Prevention (P2) Programs: The data will come from state and local P2 programs as described above. No models or assumptions or statistical methods are employed.

QA/QC Procedures: All Pollution Prevention and Toxics programs operate under the Information Quality Guidelines as found at <http://www.epa.gov/oei/qualityguidelines/index.html> and under the OPPT Quality Management Plan (QMP). OPPT Quality Management Plan is for internal use only.

Green Chemistry: Data undergo a technical screening review by OPPT before being uploaded to the database to determine if they adequately support the environmental benefits described in the application. Subsequent to OPPT screening, data are reviewed by an external independent panel of technical experts from academia, industry, government, and NGOs. Their comments on potential benefits are incorporated into the database. The panel is convened by the Green Chemistry Institute of the American Chemical Society, primarily for judging nominations submitted to the Presidential Green Chemistry Challenge Awards Program and selecting winning technologies

Design for the Environment (DfE): Data undergo a technical screening review by DfE before being uploaded to the spreadsheet. DfE determines whether data submitted adequately support the environmental benefits described.

Green Engineering (GE): Data collected will be reviewed to ensure it meets the EPA Quality Guidelines in terms of transparency, reasonableness and accuracy.

Pollution Prevention (P2) Programs: Data will undergo technical screening review by EPA and other program participants (e.g., National Pollution Prevention Roundtable) before being placed in the database. Additional QA/QC steps to be developed, as appropriate.

Data Quality Review: All Office of Pollution Prevention and Toxics (OPPT) programs operate under the Information Quality Guidelines as found at <http://www.epa.gov/oei/qualityguidelines/index.html> and under the OPPT Quality Management Plan (QMP).

Green Chemistry (GC): Review of industry and academic data as documented in U.S. EPA, Office of Pollution Prevention and Toxics, Green Chemistry Program Files available at <http://www.epa.gov/opptintr/greenchemistry/>

Design for the Environment (DfE): Not applicable.

Green Engineering (GE): Data collected will be reviewed to meet data quality requirements.

Pollution Prevention (P2) Programs: The new metrics and data system were based, in part, on recommendations in the February 2001 GAO report, “EPA Should Strengthen Its Efforts to Measure and Encourage Pollution Prevention” (GAO-01-283). They also incorporate work by such organizations as the Northeast Waste Management

Officials Association, Pacific Northwest Pollution Prevention Resource Center, and National Pollution Prevention Roundtable.

Data Limitations:

Green Chemistry (GC): Occasionally data are limited for a given technology due to confidential business information (the Presidential Green Chemistry Challenge Awards Program does not process CBI). It also is occasionally unclear what the percentage market penetration of implemented alternative green chemistry technology (potential benefits vs. realized benefits) is. In these cases, the database is so noted.

Design for the Environment (DfE): Occasionally data are limited for a given technology due to confidential business information.

Green Engineering (GE): There may be instances in which environment benefits are not clearly quantified. In those instances, the data will be excluded.

Pollution Prevention (P2) Programs: Limitations arise from the reliance on individual state and local P2 programs to gather data. These programs vary in attention to data collection from sources within their jurisdictions, data verification and other QA/QC procedures. Also, despite plans described above to move toward consistent metrics and definitions, some differences exist

Error Estimate:

Green Engineering (GE): There may be instances in which environment benefits are not clearly quantified. In those instances, the data will be excluded.

Not applicable for other programs contributing data to this measure.

New/Improved Data or Systems:

Green Chemistry (GC), Design for the Environment (DfE), Green Engineering (GE): The American Chemistry Council (ACC) has initiated an industry self-monitoring program called Responsible Care. Beginning in 2003, member companies will collect and report on a variety of information. Measures tentatively include Toxic Release Inventory (TRI) releases; tons of CO₂ equivalent per pound of production; total BTUs consumed per pound of production; systems for assessing or, reassessing potential environmental, health, and safety risks; percentage of products re-evaluated; percentage of commitments for chemical evaluation programs; documentation of process for characterizing and managing product risks; and documentation of communication of risk characterization results. Many of these measures are similar to the EPA program targets identified under Goal 5, Objective 2. These reports may be an invaluable source of industry baseline information. It is important that the EPA programs identified under Goal 5 evaluate the utility of the reports generated under the ACC's Responsible Care Program in support of the EPA's programs as well as the goals of Responsible Care. (CAPRM II, *Chemical and Pesticide Results Measures*, March 2003 pp. 313)

Pollution Prevention (P2) Programs and Hospitals for a Healthy Environment (H2E): See discussion in first item.

References:

Chemical and Pesticide Results Measures II: <http://www.pepps.fsu.edu/CAPRM/index.html>

Green Chemistry (GC): <http://www.epa.gov/opptintr/greenchemistry/>

Design for the Environment (DfE): <http://www.epa.gov/opptintr/dfe/>

Green Engineering (GE): <http://www.epa.gov/opptintr/greenengineering/>

Pollution Prevention (P2) Programs: <http://www.epa.gov/oppt/p2home/index.htm>

FY 2005 Performance Measure: Specific annual reductions in five media/resource areas: water use, energy use, solid waste, air releases, and water discharges.

Performance Databases: Both the Performance Track On-Line (a Domino database) and the Performance Track Members Database (a Microsoft Access database) store information provided to EPA from members' applications and annual performance reports. Both databases contain the same information; in fact, data from PTrack On-Line is transferred electronically to the PTrack Members Database, which is more useful for analysis. Performance Track members select a set of environmental indicators on which to report performance over a three-year period of participation. The externally reported indicators (listed above) may or may not be included in any particular

facility's set of indicators. Performance Track aggregates and reports only that information that a facility voluntarily reports to the Agency. A facility may make progress towards one of the above indicators, but if it is not among its set of "commitments", then Performance Track's data will not reflect the changes occurring at the facility. Similarly, if a facility's performance declines in any of the above areas and the indicator is not included among its set of commitments, that decline will not be reflected in the above results.

Members report on results in a calendar year. Fiscal year 2005 corresponds most closely with members' calendar year of 2005. That data will be reported to the Performance Track program by April 1, 2006. The data will then be reviewed, aggregated, and available for external reporting in August 2006. (Calendar year 2004 data will become available in August of 2005.)

Data Source: All data are self-reported and self-certified by member facilities.

Methods, Assumptions, and Suitability: Data collected from members' applications and annual performance reports are compiled and aggregated across those members that choose to report on the given indicator. The data reflect the performance results at the facility; any improvements or declines in performance are due to activities and conditions at the specific facility. The data should not be interpreted to represent the direct results of participating in the Performance Track program. Additionally, while Performance Track asks that facilities report results of an indicator for the facility as a whole, in some cases facilities report results for specific sections of a facility. This is not always clear in the reports submitted to the program. For example, Member A commits to reducing its VOC emissions from 1000 tons to 500 tons over a 3-year period. In Year 1, it reports a reduction of VOCs from 1000 tons to 800 tons. Performance Track aggregates this reduction of 200 tons with results from other facilities. But unbeknownst to Performance Track, the facility made a commitment to reduce its VOCs from Production Line A and is only reporting on its results from that production line. The facility is not intentionally hiding information from EPA, but it mistakenly thought that its commitment could focus on environmental management activities at Production Line A rather than across the entire facility. Unfortunately, due to increased production and a couple of mishaps by a sloppy technician, VOC emissions at Production Line B increased by 500 tons in Year 1. Thus, the facility's VOC emissions actually INCREASED by 300 tons in Year 1. Performance Track's statement to the public that the facility reduced its emissions by 200 tons is therefore misleading.

The data can be used to make year-to-year comparisons, but reviewers and analysts should bear in mind that Performance Track membership is constantly in flux. Although members should retain the same set of indicators for their three-year participation period, as new members join the program and others leave, the baseline constantly changes.

Due to unavoidable issues regarding the timing of the application period, a small subset of reported data will represent two years of performance at certain facilities, i.e., the baseline will be two years prior rather than one year.

QA/QC Procedures: Data submitted with applications and annual performance reports to the program are reviewed for completeness and adherence to program formatting requirements. In cases where it appears possible that data is miscalculated or misreported, EPA or contractor staff follows up with the facility. If the accuracy of data remains under question or if a facility has provided incomplete or non-standard data, the database is coded to ensure that the data is excluded from aggregated and externally reported results.

Additionally, Performance Track staff visit up to 20% of Performance Track member facilities each year. During those visits, facilities are asked about their data collection systems and about the sources of the data reported to the program.

Performance Track contractors conduct a quality review of data entered manually into the database. Performance Track staff conduct periodic checks of the entered data.

As described, Performance Track is quality controlled to the extent possible, but is not audited in a formal way. However, a prerequisite of Performance Track membership is an environmental management system (EMS) at the facility, a key element of which is a system of measurement and monitoring. Most Performance Track facilities have had independent third-party audits of their EMSs, which create a basis for confidence in the facilities' data.

A Quality Management Plan is under development.

Data Quality Reviews: N/A.

Data Limitations: Potential sources of error include miscalculations, faulty data collection, misreporting, inconsistent reporting, and nonstandard reporting on the part of the facility. Where facilities submit data outside of the Performance Track On-Line system, Performance Track staff or contractors must enter data manually into the database. Manually entered data is sometimes typed incorrectly.

It is clear from submitted reports that some facilities have a tendency to estimate or round data. Errors are also made in converting units and in calculations. In general, however, EPA is confident that the externally reported results are a fair representation of members' performance.

Error Estimate: Not calculated.

New/Improved Performance Data or Systems: As of spring 2004, all Performance Track applications and annual performance reports will be submitted electronically (i.e., through the Performance Track On-Line system), thus avoiding the need for manual data entry. Additionally, the program is implementing a new requirement that all members gain third-party assessments of their EMS.

References: Members' applications and annual performance reports can be found on the Performance Track website at <http://www.epa.gov/performance-track/particip/alphabet.htm>. *Performance Track On-Line* and the *Performance Track Members Database* are not generally accessible. Performance Track staff can grant access to and review of the databases by request.

STATUTORY AUTHORITIES

Antarctic Science, Tourism, and Conservation Act (ASTCA)

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

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

Economy Act of 1932

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

Endangered Species Act (ESA)

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)

National Environmental Policy Act

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

Small Business Regulatory Enforcement Fairness Act

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

Toxic Substances Control Act

OBJECTIVE: Build Tribal Capacity

Through 2008, assist all federally recognized tribes in assessing the condition of their environment, help in building their capacity to implement environmental programs where needed to improve tribal health and environments, and implement programs in Indian country where needed to address environmental issues.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Build Tribal Capacity	\$70,556.6	\$78,759.3	\$78,931.1	\$171.8
Environmental Program & Management	\$13,882.1	\$15,687.4	\$15,849.2	\$161.8
State and Tribal Assistance Grants	\$56,212.5	\$62,500.0	\$62,500.0	\$0.0
Building and Facilities	\$87.7	\$73.6	\$79.3	\$5.7
Inspector General	\$374.3	\$498.3	\$502.6	\$4.3
Total Workyears	99.8	99.5	98.4	-1.1

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Categorical Grant: Tribal General Assistance Program	\$56,212.5	\$62,500.0	\$62,500.0	\$0.0
Tribal - Capacity Building	\$9,555.8	\$10,494.1	\$10,641.7	\$147.6
Administrative Projects	\$4,788.3	\$5,765.2	\$5,789.4	\$24.1
TOTAL	\$70,556.6	\$78,759.3	\$78,931.1	\$171.7

ANNUAL PERFORMANCE GOALS AND MEASURES**Tribal Environmental Baseline/Environmental Priori**

In 2005 Assist federally recognized tribes in assessing the condition of their environment, help in building their capacity to implement environmental programs where needed to improve tribal health and environments, and implement programs in Indian country where needed to address environmental issues.

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.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud. 25%	FY 2005 Pres. Bud.	
Percent of Tribes with delegated and non-delegated programs (cumulative).				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
Increase tribes' ability to develop environmental program capacity of federally recognized tribes that have access to an environmental presence.			90	% Tribes
Develop or integrate EPA and interagency data systems to facilitate the use of EPA Tribal Enterprise Architecture information in setting environmental priorities and informing policy decisions.			5	Systems
Eliminate data gaps for environmental conditions for major water, land, and air programs as determined through the availability of information in the EPA Tribal Enterprise Architecture.			5	% Data Gap
Increase implementation of environmental programs in Indian country by program delegations, approvals, or primacies issued to tribes and direct implementation activities by EPA.			159	Programs
Increase the percent of tribes with environmental monitoring and assessment activities under EPA-approved quality assurance procedures.			5	% Tribes
Increase the percent of tribes w/ multimedia programs reflecting traditional use of natural resources.			5	% Tribes

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.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES**FY 2005 Performance Measure:**

Increase tribes' ability to develop environmental program capacity by ensuring that 90 percent of federally recognized tribes have access to an environmental presence.

Develop or integrate 15 (cumulative) EPA and interagency software applications to facilitate the use of EPA Tribal Enterprise Architecture information in setting environmental priorities and informing policy decisions.

Eliminate data gaps for environmental conditions for major water, land, and air programs as determined through the availability of information in the EPA Tribal Enterprise Architecture.

Increase implementation of environmental programs in Indian Country as determined by program delegations, or primacies issued to tribes and direct implementation activities by EPA.

Increase the percent of tribes with environmental monitoring and assessment activities under EPA-approved quality assurance procedures.

Increase the percent of tribes with multimedia programs reflecting traditional use of natural resources as determined by use of Performance Partnership Grants, EPA/Tribal Environmental Agreements, and other innovative EPA agreements that reflect holistic program integration.

Performance Database: EPA's American Indian Environmental Office (AIEO) has been in the forefront of working with multiple agencies on a federal interagency Tribal Enterprise Architecture under the auspices of OMB Circular A-16 on federal data coordination. The Tribal Enterprise Architecture includes access to a wide variety of data from several agencies and numerous sources within the agencies. It also includes several AIEO-developed applications to analyze environmental performance in Indian Country.

Environmental presence on tribal land is the creation of tribal government infrastructure (FTE and support) to develop program capacity, assess environmental conditions, establish environmental priorities, implement and manage programs that result in environmental improvements. The GAP Grant Tracking System, which is a component of the Tribal Enterprise Architecture, can measure environmental presence, based on tribally reported information. Environmental presence is measured by staffing levels reported; also information is collected on general capacity building, media program, and cross-media activities.

The Tribal Information Management System (TIMS), which is also part of the Tribal Enterprise Architecture, is a web-based application (<http://oasint.rtpnc.epa.gov>) used to access baseline environmental information on federally recognized Indian Tribes. Public access to this information via the web cannot be provided until EPA completes its consultation with the tribes. TIMS contains information about the environmental condition of tribal lands, the nature and status of regulated facilities there, as well as the nature and extent of tribal environmental management program activities. TIMS is not a static system. 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.

TIMS generates tribal profiles, which are standardized overviews of environmental conditions and include tribally supplied background (non-environmental) information. The overviews are multi-media and allow further access to specific, detailed, publicly available information. These profiles, in conjunction with other Tribal Enterprise Architecture information: (1) allow EPA to accurately assess the establishment of an environmental presence in Indian Country, and to report results annually as progress toward performance goals; (2) allow EPA to measure trends and changes in environmental conditions and program results over time; and, (3) provide 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 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. In 2005, AIEO will be working as the co-lead of the Federal Geographic Data Committee (with DOI's Bureau of Indian Affairs) on the FGDC tribal data workgroup.

Methods, Assumptions and Suitability: The methodology for 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 develop data and metadata standards through its work on 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 their Tribal Profiles. Mechanisms for adjusting data will be supplied. Errors in the tribal profile are subject to errors in the underlying data. 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 profiles, 2) submit geographic corrections to maps and boundary files, or submit files of different kinds of political units for analysis, and 3) submit corrections to quantitative data points, and 4) display the bibliography used to compile the TIMS information system.

Data Limitations: The largest part of the data used by the Tribal Enterprise Architecture 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, to be assigned 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 Tribal Enterprise Architecture 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 Tribal Enterprise Architecture 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 an intermediate server.

References:

Manual to TIMS: Tribal Information Management System (draft).

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>

STATUTORY AUTHORITIES

Act of 1992 as amended (42 U.S.C. 4368b)

Indian Environmental General Assistance Program (GAP)

OBJECTIVE: Enhance Science and Research

Through 2008, strengthen the scientific evidence and research supporting environmental policies and decisions on compliance, pollution prevention, and environmental stewardship.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Enhance Science and Research	\$72,209.6	\$77,181.8	\$70,128.7	(\$7,053.1)
Environmental Program & Management	\$12,336.5	\$11,039.9	\$10,936.2	(\$103.7)
Hazardous Substance Superfund	\$5,160.1	\$8,070.5	\$6,879.5	(\$1,191.0)
Science & Technology	\$53,066.4	\$56,273.7	\$50,468.8	(\$5,804.9)
Buildings and Facilities	\$1,337.1	\$1,422.4	\$1,506.3	\$83.9
Inspector General	\$309.3	\$375.3	\$337.9	(\$37.4)
Total Workyears	293.5	304.4	299.0	-5.3

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Research: Pollution Prevention	\$31,504.1	\$38,998.6	\$34,060.5	(\$4,938.1)
Forensics Support	\$14,845.9	\$18,258.4	\$16,910.8	(\$1,347.6)
Research: Environmental Technology Verification (ETV)	\$2,619.0	\$4,011.8	\$2,996.8	(\$1,015.0)
Congressionally Mandated Projects	\$9,040.0	\$0.0	\$0.0	\$0.0
Administrative Projects	\$14,200.6	\$15,913.0	\$16,160.6	\$247.6
TOTAL	\$72,209.6	\$77,181.8	\$70,128.7	(\$7,053.1)

ANNUAL PERFORMANCE GOALS AND MEASURES**Research****Pollution Prevention Research**

Long-term Outcome Measure	Measure under development.
Annual Measure	Measure under development.
Efficiency Measure	Measure under development.

New Technologies

In 2005	Complete thirty verifications and four testing protocols for a program cumulative total of 280 verifications and 88 testing protocols for new environmental technologies so that, by 2009, appropriate and credible performance information about new, commercial-ready environmental technology is available that influences users to purchase effective environmental technology in the US and abroad.
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	Developed 10 testing protocols and completed 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.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
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
Verifications completed			15	verifications
Testing protocols completed			2	protocols

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 U.S. 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. Through FY 2004, EPA's Environmental Technology Verification (ETV) Program will have verified approximately a programmatic total of 265 technologies, as well as making data on their performance available for public use, and will have developed 86 protocols. In FY 2005, the ETV Program will complete 15 additional verifications and two testing protocols for a cumulative total of 280 verifications and 88 testing protocols since ETV began in 1995. Beginning in FY 2005, regular evaluations by independent and external panels will provide reviews of EPA research programs' relevance, quality, and successful performance to date, in accordance with OMB's Investment Criteria for Research and Development. These evaluations will include an examination of a program's design to determine the appropriateness of a program's short-, intermediate-, and long-term goals and its strategy for attaining these. Reviewers will also qualitatively determine whether EPA has been successful in meeting its annual and long-term commitments for research. Recommendations and results from these reviews will improve the design and management of EPA research programs and help to measure their progress under the Government Performance and Results Act (GPRA).

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES**FY 2005 Performance Measure: Verifications completed**

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: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2005 Performance Measure: Testing protocols completed

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: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

STATUTORY AUTHORITIES

Clean Air Act

Clean Air Act Amendments of 1990

Clean Water Act

Comprehensive Environmental Response, Compensation, and Liability Act sections 106, 107, 109, and 122 (42 U.S.C. 9606, 9607, 9609, 9622)

Emergency Planning and Community Right-to-Know Act sections 325 and 326 (42 U.S.C. 11045, 11046)

Federal Insecticide, Fungicide, and Rodenticide Act

Federal Technology Transfer Act

Ocean Dumping Act sections 101, 104B, 105, and 107 (33 U.S.C. 1411, 1414B, 1415, 1417)

Pollution Prevention Act

Pollution Prosecution Act of 1990 (42 U.S.C. section 4321 note)

Residential Lead-Based Paint Hazard Reduction Act of 1992, section 1018 under TSCA section 11 (42 U.S.C. 4852d, 2610)

Resource Conservation and Recovery Act (RCRA) of 1976, as amended; 42 U.S.C. 6901-6992K)

Safe Drinking Water Act

Small Business Innovation and Development Act

Superfund Amendments Reauthorization Act

Toxic Substances Control Act

ENABLING/SUPPORT PROGRAMS

Enabling/Support programs (Dollars in Thousands)

Office of Air and Radiation

Program Project	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
Homeland Security: Protection of EPA Personnel and Infrastructure	\$0.0	\$600.0	\$600.0

Office of Solid Waste and Emergency Response

Program Project	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
Homeland Security: Protection of EPA Personnel and Infrastructure	\$0.0	\$600.0	\$600.0

Office of Enforcement and Compliance Assurance

Program Project	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
Congressional, Intergovernmental, External Relations	\$1,807.3	\$2,253.3	\$2,467.2
IT / Data Management	\$22,244.7	\$25,641.1	\$26,261.9

Office of Administration and Resources Management

Program Project	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
Homeland Security: Protection of EPA Personnel and Infrastructure	\$39,968.1	\$19,288.0	\$19,309.3
Facilities Infrastructure and Operations	\$385,000.8	\$418,840.5	\$439,297.8
Acquisition Management	\$40,740.9	\$41,846.3	\$43,659.5
Human Resources Management	\$46,491.7	\$49,191.0	\$48,553.1
Financial Assistance Grants / IAG Management	\$17,792.2	\$20,313.4	\$23,262.1

ANNUAL PERFORMANCE GOALS AND MEASURES**Energy Consumption Reduction**

In 2005 By 2005, EPA will achieve a 20% 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.

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.

In 2003 The Agency achieved 15.3% energy consumption reduction from 1990 in its 21 laboratories.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Cumulative percentage reduction in energy consumption (from 1990).	15.3	16	20	Percent

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: The Agency's contractor receives energy bills regularly – either monthly or quarterly – from the utility companies. This information is compiled in the contractor's database and provided to the Agency quarterly and annually. The contractor is responsible for validating the data.

Data Source: Energy bills from the utility companies, as compiled by the Agency's contractor.

QA/QC Procedures: Agency staff/contractor review utility bills from laboratories.

Data Quality Review: EPA's Sustainable Facilities Practices Branch.

Data Limitations: N/A

New/Improved Data or Systems: N/A

References: N/A

Data Source: The Office of Human Resources and Organizational Services (OHROS) will assist Program Offices in determining their demand for future mission-critical skills and competencies, identifying their gaps, and developing a methodology for filling the gaps. This information will be entered by the Program Offices into the Agency's Workforce Planning module in PeoplePlus, the Agency's integrated human resources/time&labor/payroll system.

QA/QC Procedures: The information will be verified through collaboration with Program Managers, e.g., through focus groups.

Data Quality Review: N/A

Data Limitations: Some of the data, like a determination of current competencies and skills, will be generated by employees themselves.

New/Improved Data or Systems: PeoplePlus is the Agency's new integrated system set to go live in early October 2003.

References: <http://intranet.epa.gov/institute/wds/planning.htm>

Office of Environmental Information

Program Project	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
Homeland Security: Communication and Information	\$0.0	\$3,820.3	\$3,820.3
Exchange Network	\$21,282.4	\$33,295.3	\$27,762.2
Information Security	\$21,516.2	\$13,337.4	\$4,697.2
IT / Data Management	\$86,198.4	\$112,124.9	\$130,019.6

In FY 2005, EPA proposes increased focus on the following five critical areas:

- 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 information technology (IT) infrastructure that has the capacity to handle the massive amounts of data needed to perform environmental analyses, support environmental decision making, and share environmental data with partners inside and outside EPA.
- Improve management and reduce the 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 concepts¹.
- 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 Web site management procedures and processes to keep pace with technological advances as well as homeland defense concerns on the disclosure of certain information, and the public's demand for access to environmental information.

EPA's Chief Information Officer (CIO) will continue to pursue a strategy which supports a strong Agency architecture program and investment management process as outlined by the Federal CIO Council and required by the Clinger-Cohen Act. Our approach to information will allow EPA to collect and share data while making key information, technology, and funding decisions at an enterprise-wide level and strengthening the efficiency and effectiveness of the governance structure and operations.

The vast majority of environmental data are collected by states and tribes, not directly by EPA. Through a five-year partnership effort, EPA is working with states and tribes to develop an internet-based Environmental Information Exchange Network (Exchange Network). The Exchange Network is the means by which EPA and our partners are migrating from antiquated, inaccessible, "stove pipe" data systems (or sometimes even paper systems) to digital, high quality, integrated environmental information systems. These new systems, with their "network portals" allow multiple types of data to be exchanged over the internet between EPA, states, tribes, the regulated community, and the public. The Exchange Network was conceived and designed by EPA and the states to enhance environmental decision making at the Federal, state, and local level. It increases the availability of data, ensures better data quality and accuracy, maintains security of sensitive data, prevents avoidance of redundant data, and reduces the burden on those who provide and those who access data. It is an effort which supports both public servants and private citizens' environmental choices.

¹ Office of Management and Budget. "The President's Management Agenda." Available (or accessible) only through the Internet: <http://www.whitehouse.gov/omb/budget/fy2002/mgmt.pdf>

In addition to the value inter-governmental partnerships and environmental information exchange provide to environmental policy making, EPA and others also benefit from the economies of scale and efficiencies which improve the quality of services and drive down the cost of basic government functions. The Agency's enterprise-wide investment and planning will result in improved services beyond the institutional boundaries of EPA. 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 overlap. Specific activities include small business compliance, payroll, geospatial information, online rulemaking, and other enterprise-wide resource functions.

ANNUAL PERFORMANCE GOALS AND MEASURES

Information Exchange Network

- In 2005 Improve the quality, comparability, and availability of environmental data for sound environmental decision-making through the Central Data Exchange (CDX).
- In 2004 Improve the quality, comparability, and availability of environmental data for sound environmental decision-making through the Central Data Exchange (CDX).
- In 2003 Continued to improve data access to ensure that 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.

Performance Measures:

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
States using the Central Data Exchange (CDX) to send data to EPA.	49			States
CDX will fully support electronic data exchange requirements for major EPA environmental systems, enabling faster receipt, processing, and quality checking of data.			12	Systems
States will be able to exchange data with CDX through state nodes in real time, using new web-based data standards that allow for automated data-quality checking.			40	States
States, tribes, laboratories, and others will choose to use CDX to report environmental data electronically to EPA, taking advantage of automated data quality checks and on-line customer support.			20,000	Users
Customer help desk calls are resolved in a timely manner.			96	Percent
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.	7			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

Baseline: The Central Data Exchange program began in FY 2001.

Data Quality

- In 2005 EPA increasingly uses environmental indicators to inform the public and manage for results.
- In 2005 EPA will improve the quality and scope of information available to the public for environmental decision-making.

In 2004 EPA increasingly uses environmental indicators to inform the public and manage for results.

In 2003 The public had access to a wide range of Federal, state, and local information about local environmental conditions and features in an area of their choice.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Establish an improved suite of environmental indicators for use by EPA's programs and partners in the Agency's strategic planning and performance measurement process.			1	Report
Responders to the baseline questionnaire on customer satisfaction on the EPA Website report overall satisfaction with their visit to EPA.GOV.			60	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.

Information Security

In 2005 OMB reports that all EPA information systems meet/exceed established standards for security.

In 2004 OMB reports that all EPA information systems meet/exceed established standards for security.

In 2003 OMB reported that all EPA information systems meet/exceed established standards for security.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Percent compliance with criteria used by OMB to assess Agency security programs reported annually to OMB under Federal Information Security Management Act/Govt. Information Security Reform Act.	75	75	75	Percent
Percent of intrusion detection monitoring sensors installed and operational.	100			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 Manage Agency-wide information technology assets consistent with the Agency's multi-year strategic information resource management plan (Enterprise Architecture) reflecting current Agency mission priorities and resources.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Designated upgrades to technology infrastructure and enterprise information tools occur on schedule per plan.		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 2005 Performance Measures:

- **The Central Data Exchange (CDX) will fully support electronic data exchange requirements for major EPA environmental systems, enabling faster receipt, processing, and quality checking of data.**

- States will be able to exchange data with CDX through state nodes in real time, using new web-based data standards that allow for automated data-quality checking.
- Private sector, local and tribal governments, and other regulated entities, including laboratories, will choose to use CDX to report environmental data electronically to EPA, taking advantage of automated data quality checks and on-line customer support.
- Customer-help desk calls resolved in a timely fashion.

Performance Database: CDX Customer Registration Subsystem.

Data Source: Data are provided by state, private sector, local, and tribal government 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 have been performed in accordance with a CDX Quality Assurance Plan [*Quality Assurance Project Plan for the Interim Central Data Exchange System*. Document number: EP005T7. Sept. 17, 2001] and the CDX Design Document v.3, Appendix K registration procedures [*Central Data Exchange Electronic Reporting Prototype System Requirements: Version 3*; Document number: EP005S3. December 2000]. Specifically, data are reviewed for authenticity and integrity. There are plans to update these procedures during FY 2004 to incorporate new technology and policy requirements. Automated edit checking routines are performed in accordance with program specifications and CDX quality assurance guidance [*Quality Assurance Project Plan for the Interim Central Data Exchange System*. Document number: EP005T7. Sept. 17, 2001].

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, private sector-to-EPA, and local and tribal governments-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 different external 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 2005 Performance Measure: Establish an improved suite of environmental indicators for use by EPA's programs and partners in the Agency's strategic planning and performance measurement process.

Performance Database: Initial collection of indicators compiled during the drafting of EPA's "Report on the Environment," supplemented by indicators currently used in the Agency's strategic planning and performance measurement process (e.g., EPA's Strategic Plan, Annual Performance Plan, Annual Performance Report, Annual

Operating Plan, and National Environmental Performance Partnership Agreements), will comprise an Agency baseline of indicators.

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 of indicators in consultation with key Agency steering committees.

QA/QC Procedures: As the baseline is established, 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 are in development.

References: EPA's "Draft Report on the Environment" and "Technical Support Document" (EPA pub. no. 260-R-02-006). Draft Report on the Environment Technical Document (Publication # EPA 600-R-03-050). Both Dated June 2003

Web site: <http://www.epa.gov/indicators/roe/html/roePDF.htm>

FY 2005 Performance Measure: Percent compliance with criteria used by OMB to assess Agency security programs reported annually to OMB under the Federal Information Security Management Act (FISMA).

Performance Database: Automated Security Self-Evaluation and Remediation Tracking (ASSERT) database.

Data Source: Information technology (IT) system owners in Agency Program and Regional offices.

Methods, Assumptions, and Suitability: Annual IT security assessments are conducted using the methodology mandated by the Office of Management and Budget (OMB), the National Institute of Standards, and Technology (NIST) Security Self Assessment Guide for Information Technology Systems. ASSERT has automated and web-enabled this methodology.

QA/QC Procedures: Automated edit checking routines are performed in accordance with ASSERT design specifications to ensure answers to questions in ASSERT are consistent. Independent evaluations are conducted on the assessments by both the Office of Inspector General consistent with §3545 FISMA and the Chief Information Officer's information security staff. The Agency certifies results to OMB in the annual FISMA report.

Data Quality Reviews: Program offices are required to develop security action plans composed of tasks and milestones to address security weakness. Program offices self-report progress toward these milestones. EPA's information security staff review these self-reported data, conduct independent validation of a sample, and discuss 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: N/A

References: Annual Information Security Reports to OMB: <http://intranet.epa.gov/itsecurity/progreviews/>; OMB guidance memorandum: <http://www.whitehouse.gov/omb/memoranda/2003.html>; ASSERT web site: <https://cfint.rtpnc.epa.gov/assert/>; NIST Special Publication 800-26, *Security Self-Assessment Guide for Information*

Technology Systems, November 2001: <http://csrc.nist.gov/publications/nistpubs/index.html>; and, Federal Information Security Management Act, PL107-347: http://csrc.nist.gov/policies/FISMA_final.pdf.

FY 2005 Performance Measures: Responders to the baseline questionnaire on customer satisfaction on the EPA Website report overall satisfaction with their visit to EPA.GOV. baseline levels.

Performance Database: Customer Satisfaction Questionnaire

Data Source: Data are provided by customers completing the questionnaire.

Methods, Assumptions, and Suitability: Customers visiting the EPA's Website are given an opportunity to provide feedback by completing a short customer satisfaction questionnaire. In an effort to maintain the objectivity of the questionnaire results, EPA has contracted with an independent group, which specializes in hosting online surveys, to gather and analyze data. No personal information is collected as a result of completing the survey.

QA/QC Procedures: The EPA Website provides access to information produced by the EPA's program and Regional offices. Information published on the Website must go through a product review conducted by the program/Region producing the information. Additionally, all information must adhere to Agency Website policies and guidance. The customer satisfaction questionnaire database has controls in place to prevent repeated entries.

Data Quality Reviews: An annual EPA Website accounts audit is conducted by The Office of Environmental Information's (OEI's) Office of Information Analysis and Access and requires EPA's program offices to review the content and quality of their material and to re-authorize who can post to their Web area. The customer satisfaction database is reviewed quarterly.

Data Limitations: The customer satisfaction questionnaire is voluntary.

Error Estimate: N/A

New/Improved Data or Systems: The EPA Website was converted to a single look and feel that provides a more consistent approach to presenting information on the Web. In FY 2004, to help users access the information more easily, and to provide information in an integrated manner, the website's search engine will be replaced.

References: EPA Web site (www.epa.gov)

EFFICIENCY MEASURES/MEASURE DEVELOPMENT PLANS

- EPA plans to track the costs incurred for the Central Data Exchange (CDX) relative to production system, state node, and CDX user.
- Regarding information security, the Agency will measure the number of incidents that occurred from known threats that should have been anticipated relative to the number of Computer Emergency Response Team (CERT) advisories implemented within EPA's infrastructure.

COORDINATION WITH OTHER AGENCIES

EPA works with its state partners under the State/EPA Information Management Workgroup and the Network 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 (USGS), Federal Geographic Data Committee (FGDC), and CIO 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.

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. 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 to develop and implement the infrastructure for national spatial data. 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.

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-Gov, 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-Gov 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-Gov records.

STATUTORY AUTHORITIES

Clean Air Act and amendments
Clean Water Act and amendments
Clinger-Cohen Act
Comprehensive Environmental Response, Compensation, and Liability Act
Computer Security Act
Electronic Freedom of Information Act
Emergency Planning and Community Right-to-Know
Environmental Research, Development, and Demonstration Act
Federal Advisory Committee Act
Federal Food, Drug and Cosmetic Act
Federal Insecticide, Fungicide, and Rodenticide Act
Food Quality Protection Act
Freedom of Information Act
Government Information Security Reform Act
Government Management Reform Act
Government Performance and Results Act
Paperwork Reduction Act
Privacy Act
Resource Conservation and Recovery Act
Safe Drinking Water Act and amendments
Superfund Amendments and Re-authorization Act
Toxic Substance Control Act

Office of the Chief Financial Officer

Program Project	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
Central Planning, Budgeting, and Finance	\$74,889.4	\$86,143.4	\$86,655.3

Resources will support activities related to maintaining the highest-quality standards for environmental leadership and for effective internal management and fiscal responsibility of Agency resources. Activities under this program/project will support the management of integrated planning, budgeting, financial management, performance and accountability processes and systems to ensure effective stewardship of resources. In addition, this program/project supports a full range of national, local and specialized accounting, financial and customer services through the Agency's four Finance Centers.

ANNUAL PERFORMANCE GOALS AND MEASURES**Strengthen EPA's Management**

- In 2005 Strengthen EPA's financial 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 financial 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 financial management services in support of the Agency's mission while addressing the challenges included in the President's Management Agenda

Performance Measures:	FY 2003 Enacted	FY 2004 Pres. Bud.	FY 2005 Request	
Agency audited Financial Statements are timely, and receive an unqualified opinion.	1	1	1	Financial statement

Baseline: The Agency's audited FY 2004 Financial Statements will be submitted on time, in accordance with the new accelerated schedule, to OMB and receive an unqualified opinion.

VALIDATION AND VERIFICATION OF PERFORMANCE GOALS

Performance Measure: Agency's audited Financial Statements meet the new accelerated schedule 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. The annual financial audit opinion, rendered by the OIG, is a gauge of the accuracy and fair presentation of the financial activity and financial balances of the Agency. The unqualified opinion is rendered by the OIG.

Data Limitations: N/A

New/Improved Data or Systems: N/A

References: Fiscal Year 2003 EPA Annual Report

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.

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

Annual Appropriations Act
Clinger-Cohen Act
Comprehensive Environmental Response, Compensation and Liability Act
Computer Security Act
E – Government Act of 2002
Electronic Freedom of Information Act
EPA's Environmental Statutes, and the Federal Grant and Cooperative Agreement Act
Federal Activities Inventory Reform Act (FAIR)
Federal Acquisition Regulations (FAR), contract law, and EPA's Assistance Regulations (40CFR Parts 30, 31, 35, 40, 45, 46, 47)
Federal Manager's Financial Integrity Act (1982)
Freedom of Information Act
Government Management Reform Act (1994)
Improper Payments Information Act
Inspector General Act of 1978 and Amendments of 1988
Paperwork Reduction Act
Privacy Act
The Chief Financial Officers Act (1990)
The Government Performance and Results Act (1993)
The Prompt Payment Act (1982)
Title 5 United States Code

Office of International Activities

Program Project	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
Homeland Security: Protection of EPA Personnel and Infrastructure	\$0.0	\$0.0	\$35.0

Office of the Administrator

Program Project	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
Homeland Security: Communication and Information	\$874.0	\$0.0	\$500.0
Congressional, Intergovernmental, External Relations	\$52,341.0	\$45,198.9	\$46,082.8
Administrative Law	\$4,464.4	\$4,705.1	\$4,929.3
Civil Rights / Title VI Compliance	\$11,770.7	\$12,113.8	\$12,414.2
Regional Science and Technology	\$2,840.1	\$3,609.2	\$3,626.2
Science Advisory Board	\$3,748.7	\$4,409.0	\$4,757.1
Small Minority Business Assistance	\$2,105.8	\$2,214.5	\$2,282.0

Office of the General Counsel

Program Project	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
Alternative Dispute Resolution	\$877.9	\$1,153.4	\$1,889.6
Legal Advice: Environmental Program	\$33,913.7	\$34,722.9	\$35,522.8
Legal Advice: Support Program	\$8,871.3	\$12,240.9	\$12,521.7

The Office of General Counsel (OGC) and the Offices of Regional Counsel (ORCs) will provide legal representational services, legal counseling, and legal support for all Agency environmental activities and for all activities necessary for the operation of the Agency. Additionally, these resources are used by the OGC to provide environmental Alternative Dispute Resolution services.

Office of the Inspector General

Program Project	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
Audits, Evaluations, and Investigations	\$46,612.9	\$50,021.3	\$51,135.6

All Office of the Inspector General (OIG) 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.

ANNUAL PERFORMANCE GOALS AND MEASURES

Fraud Detection and Deterrence

- In 2005 In 2005, the OIG will improve Agency business and operations by identifying 240 recommendations, potential savings and recoveries equal to 200 percent of the annual investment in the OIG, 102 actions for better business operations, and 80 criminal, civil, or administrative actions reducing risk or loss of integrity.
- In 2004 In 2004, the OIG will improve Agency business and operations by identifying 240 recommendations, contributing to potential savings and recoveries equal to 150 percent of the annual investment in the OIG, 100 actions for greater efficiency and effectiveness, and 80 criminal, civil, or administrative actions reducing the risk of loss or integrity.
- In 2003 In the Annual Performance Report, our results for APG 2 were combined with the results for APG 1.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Number of improved business practices and systems.	138	100	102	Improvements
Number of criminal, civil, and administrative actions.	83	80	80	Actions
Number of business recommendations, risks, and best practices identified.	264	240	240	Recommendations
Return on the annual dollar investment in the OIG.	856	150	200	Percent

Baseline: In FY 2002, the OIG established a baseline of 150 business recommendations, 70 improved business practices, and 50 criminal, civil, and administrative 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 2005 In 2005, the OIG will contribute to improved environmental quality and human health by identifying 95 environmental recommendations, best practices, risks, or opportunities for improvement; contributing to the reduction or elimination of 23 environmental or infrastructure security risks; and 45 actions influencing environmental improvements or program changes.
- In 2004 In 2004, the OIG will improve environmental quality and human health by identifying 80 recommendations, risks, or best practices; contributing to the reduction or elimination of 18 environmental risks; and 42 actions influencing positive environmental or health impacts.

In 2003 Improve environmental quality and human health by identifying 48 environmental recommendations, risks, and best practices; contributing to the reduction of 9 environmental risks, and 47 actions influencing positive environmental or health impacts.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Number of environmental risks reduced.	9	18	23	Risks
Number of environmental actions.	47	42	45	Improvements
Number of environmental recommendations, risks, and best practices identified.	48	80	95	Recommendations

Baseline: In FY 2002, the OIG established a baseline of: 75 recommendations, best practices and risks identified contributing to improved Agency environmental goals; 15 environmental actions; and the reduction of 15 environmental risks. The FY 2004 performance measure targets for environmental measures were revised downward due to actual experience gained within the past year.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Performance Measures: Number of actions taken for environmental improvement, reductions in environmental risks, and recommendations made for environmental improvement. Number of actions taken for improvement in business practices, criminal/civil/administrative actions, potential dollar return, and recommendations made for improved business practices.

Performance Database: The OIG Performance Measurement and Results System is used to capture and aggregate information on an array of measures in a 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 and management improvement; 2) legislative, regulatory policy, directive, or process changes; 3) environmental and integrity risks identified, reduced or eliminated; 4) best practices identified and transferred; 5) examples of environmental and management improvements; and 6) monetary value of funds questioned, saved, fined or recovered.

Data Source: Designated OIG staff enter data into the system. Data are from OIG performance evaluations, audits, research, court records and from EPA documents, data systems and reports that track environmental and management actions or improvements made, risks reduced or avoided. OIG also collects independent data from EPA's partners and stakeholders.

Methods, Assumptions and Suitability: OIG performance results are a chain of linked events, starting with OIG outputs (e.g., recommendations, reports of best practices and identification of risks). The subsequent actions taken by EPA or its stakeholders/partners, as a result of OIG's outputs, to improve operational efficiency and environmental program delivery are reported as intermediate outcomes. The resulting improvements in operational efficiency, risks reduced/eliminated, and conditions of environmental and human health are reported as outcomes. By using common categories of performance measures, quantitative results can be summed and reported. Each outcome is also qualitatively described, supported and linked to an OIG product or output. The OIG can only control its outputs, and has no authority, beyond its influence, to implement its recommendations.

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 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 independently evaluate the integrity of Agency operations and reporting systems. The OIG has also issued its own data quality policy and procedures.

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 Measurement and Results System.

Data Limitations: All OIG staff are responsible for data accuracy in their products and services. However, there is a possibility of incomplete, miscoded, or missing data in the system due to human error or time lags. 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 Measurement and Results System as a prototype in FY 2001 and anticipates replacing it in FY 2004 with a more sophisticated system designed to integrate data collection, and analysis. We also expect the quality of the data to improve as staff gains greater familiarity with the system and 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 Measurement and Results System 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 IG chairs the PCIE's Environmental Consortium, GPRA Roundtable, and Human Resources Committee. 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 that have 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

Chief Financial Officers Act
Comprehensive Environmental Response, Compensation and Liability Act
Federal Financial Management Improvement Act
Federal Information Security Management Act
Food Quality Protection Act
Government Management Reform Act
Inspector General Act, as amended
Reports Consolidation Act
Single Audit Act

Special Analysis

MAJOR MANAGEMENT CHALLENGES

In FY 2003 EPA strengthened its ability to achieve environmental and human health results by addressing its major management challenges. For the second year, the Agency reported no material weaknesses under the Federal Managers Financial Integrity Act (Integrity Act).¹ EPA also resolved in FY 2003 almost one third of its less severe, internal Agency weaknesses tracked by the Administrator. To identify management issues and monitor progress in addressing them, Agency senior leaders use a system of activities that includes: internal and independent reviews, program evaluation and measurement; audits by the General Accounting Office (GAO) and EPA's Office of Inspector General (OIG); and input from the Office of Management and Budget (OMB). These efforts 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 FY 2003 OMB recognized EPA's success in correcting material weaknesses, which contributed to the Agency achievement of a "green" status score in Improved Financial Performance, a key initiative of the President's Management Agenda.² Following are brief descriptions and summaries on efforts underway to address the management challenges facing the Agency.

Challenges in Addressing the Air Toxics Regulatory/Residual Risk Program

While EPA has made substantial progress in issuing Phase 1 air toxics standards, it was over two years behind in fulfilling statutory responsibilities. From FY 2001 to FY 2003, this issue has been an Integrity Act weakness, and from FY 2002 to FY 2003 an OIG management challenge.

EPA has made significant progress in correcting the Agency level weakness on *Meeting Statutory Deadlines for the Air Toxics Regulatory/Residual Risk Program*. Based on this progress, the Agency is on target to complete all of its 10-year Maximum Achievable Control Technology (MACT) standards by February 27, 2004.³ In addition to strengthening the air toxics program to prevent further delays in issuing the MACT, EPA has developed a comprehensive, integrated air toxics program that better meets long term goals by addressing risks from all sources of toxics—major, area, mobile and indoor sources. The Agency continues to shift the emphasis of its air toxics program to a risk-based approach that addresses specific needs of the various categories of residual risk and their special handling in the Clean Air Act. EPA is developing site-specific risk assessment guidance⁴ that will allow a facility to demonstrate whether the health risks it poses to the surrounding community are low enough to comply with the residual risk standards. The Agency is also continuing to analyze the risk of the remaining 2-, 4-, and 7-year MACT source categories. As part of the effort to address concerns about data gaps for toxicity and different data collection and analysis methods, EPA is also developing an efficiency measure on the cause-and-effect relationships between the air toxics program and changes in environmental conditions or cancer incidence. In addition, the Agency is strengthening its sound scientific foundation for an effective risk-based program. This year, the Science Advisory Board (SAB) completed an external review of the Agency's air toxics research strategy.⁵ EPA is also 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

¹ Federal Managers Financial Integrity Act of 1982, Public Law 97-255 (September 8, 1982).

² Office of Management and Budget, The Executive Office of the President, Federal Management, *The President's Management Agenda*. Available at http://www.whitehouse.gov/omb/budintegration/pma_index.html.

³ U.S. EPA, *National Emission Standards for Hazardous Air Pollutants*. Available at <http://www.epa.gov/ttn/atw/eparules.html>.

⁴ Air Toxics Website - <http://www.epa.gov/ttn/atw/>.

⁵ Science Advisory Board Website - <http://www.epa.gov/science1/03project/proj0328.htm>.

monitoring pilot project, was completed in mid-2003.⁶ Data from this effort is helping to complete the design of a network for a national air toxics characterization in FY 2004. While EPA works to develop better indicators of air toxic risk reduction, it continues to effectively reduce air toxics, which since 1990 have been reduced by 1.5 million tons per year, a 34% reduction.⁷ 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% from 1990-1993 baseline levels.⁸

Reduce the Backlog of National Pollutant Discharge Elimination System (NPDES) Permits⁹

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. Necessary improvements in water quality could be delayed if high-quality permits are not issued timely. From FY 2001 to FY 2003 this issue has been an Integrity Act weakness and an OIG management challenge.

EPA's strategy for improving the program has significantly reduced the backlog. 84 percent of major facilities have current permits (63 percent of the targeted reduction). 82 percent of individual minor facilities have current permits (79 percent of the targeted reduction). When facilities covered by non-storm water general permits are included in the count of minors, 85 percent have current permits (87 percent of the targeted reduction).

In addition to significantly reducing the backlog, EPA is continuing to improve permit

efficiency and quality. EPA's recently revised strategy includes increased focus on: effective prioritization of permits for environmental results, stronger NPDES program integrity, and increased efficiency through permit streamlining. To prioritize permits, in FY 2003, EPA pilot tested the use of a permit prioritization checklist and is working with regions and states to finalize it. EPA is also reviewing permit data quality, increasing the percentage of permit records with locational data to better characterize the environmental impact, and modernizing PCS for anticipated implementation in FY 2006. To strengthen NPDES program integrity, EPA is holding regular training courses for permit writers, and working with regions and states to develop and pilot quality management tools, including regional and state self assessments, quarterly trend reports, and state NPDES program profiles. As part of the effort to increase efficiency, the Agency is bundling lower priority permits in a streamlined process, facilitating watershed-based permitting approaches, encouraging use of general permits, and developing and distributing electronic permit application and permit writing tools. In 2003, EPA also made available, through the internet, scanned copies of major permits and fact sheets. The web-accessible permits improve access to information, provide models and improve data sharing.

Management of Biosolids

OIG raised concerns regarding the scientific studies regarding risk and the resources devoted to implementing the biosolids program. From FY 2002 to FY 2003 this issue has been an OIG management challenge.

EPA continues to meet its statutory obligations under the Clean Water Act (CWA) pertaining to sewage sludge while it addresses concerns about the adequacy of the sewage sludge rule, significantly expands biosolids-related research, and continues to actively address biosolids violations and enforce safe land-application of biosolids to prevent risk to human health or the environment. EPA set into motion an inclusive process to address concerns by establishing an intra-Agency committee to develop a draft Agency response to National Research Council (NRC) 2002 recommendations for additional research.¹⁰ In April 2003 EPA published

⁶ Technology Transfer Website - <http://www.epa.gov/ttn/amtic/>

⁷ U.S. EPA, Office of Air and Radiation. Analysis based on emission projections using the EMS-HAP version 2 model and the 2000 version of the 1990/1993 baseline inventory. EMS-HAP available at <http://www.epa.gov/scram001/tt22.htm#aspen> . Projection-related inputs available at <http://www.epa.gov/ttn/chief/emch/projection/emshap.html>.

⁸ U.S. EPA, Office of Air and Radiation. Analysis based on emission projections using the EMS-HAP version 2 model and the 2000 version of the 1990/1993 baseline inventory. EMS-HAP available at <http://www.epa.gov/scram001/tt22.htm#aspen> . Projection-related inputs available at <http://www.epa.gov/ttn/chief/emch/projection/emshap.html>.

⁹ U.S. EPA, Office of Water, *National Pollutant Discharge Elimination System (NPDES), Backlog Reduction*. Available at <http://cfpub.epa.gov/npdes/permitissuance/backlog.cfm>.

¹⁰ National Research Council, Division on Earth and Life Studies, Board on Environmental Studies and Toxicology, *Biosolids Applied to Land: Advancing Standards and Practices* (2002). Available at <http://www.nap.edu/catalog/10426.html>.

its draft response in the Federal Register for public comment.¹¹ and announced its final response and strategy in the Federal Register on December 31, 2003.¹² The December 31, Federal Register notice also included the final decision on identifying additional pollutants in biosolids that may warrant further regulation §405(d)(2)(C) of the CWA. It describes a multi-pathway screening risk analysis from which EPA identified 15 pollutants for further evaluation and data gathering to determine whether they may warrant regulation under the CWA.

On October 17, 2003, EPA announced its final decision not to regulate dioxins in land applied sewage sludge.¹³ This decision was based on the results of a peer reviewed multi-pathway risk assessment that took five years to develop and finalize. The results of this risk assessment demonstrated that the risk is small of new cancers from exposure to dioxins for a highly exposed population of farm families that use sewage sludge on their farms as a fertilizer and soil amendment. EPA also evaluated the potential risks to wildlife from exposure to dioxins from land applied sewage sludge. The results of this evaluation indicated that there are no significant ecological impacts.

EPA is undertaking research and analyses initiatives to improve and expand its scientific understanding and management of the biosolids program. In addition, EPA has taken actions to address biosolids violations and will continue to take actions to address instances where biosolids pose an endangerment to human health or the environment. From FY 1995 to FY2002 EPA undertook over 500 enforcement actions, and from FY 2000 to FY 2002 conducted approximately 380 inspections.¹⁴ To assist the states and regions in their oversight of the biosolids program, EPA has, either in place or in development, tools to assist and promote compliance with biosolids regulatory requirements. For example, the Agency recently developed revised guidance and training on NPDES inspections, including biosolids.¹⁵ EPA is also continuing to work with states as it modernizes the Permit Compliance System (PCS) to allow for more effective program oversight. As part

of the PCS modernization, a separate workgroup (including states and EPA) was devoted to the data needed to manage the biosolids program.¹⁶ The anticipated implementation date for the modernized PCS is December 2005. In addition to this national system, states and facilities may choose to use the Biosolids Data Management System (BDMS) as an additional management tool.

EPA also has been working closely with the National Biosolids Partnership to develop and pilot test a voluntary system for biosolids which seeks to enhance biosolids management from pretreatment through processing and ultimate disposition. Currently there are 62 wastewater treatment authorities in the EMS and EMS development program. At the end of Calendar 2003, the first two authorities, Orange County, California and the City of Los Angeles California attained EMS status with the awarding of EMS certificates by the National Biosolids Partnership. The Agency has also been actively coordinating with states and regions through a cross-office Biosolids Program Implementation Team. EPA also continues to conduct state of the biosolids workshops. The Agency held the most recent conference on the "State of Science for the Land Application of Biosolids" in January, 2004. In cooperation with the U.S. Department of Agriculture and many other stakeholders, EPA plans to conduct field studies at selected locations to assess potential emissions of certain chemical and microbial agents from biosolids land-application sites.

EPA's Working Relationships with States

The National Environmental Performance Partnership System (NEPPS)¹⁷ established working EPA-state partnerships designed to focus scarce resources on priority environmental problems. Under NEPPS, jointly-developed priorities, strategies, and measures for assessing progress are articulated in performance partnership agreements (PPAs). Performance partnership grants (PPGs),¹⁸ a primary tool for implementing NEPPS, allow states and Tribes to combine multiple EPA grants into one grant directed to their needs and priorities. From FY 2001

¹¹ Federal Register, April 9, 2003 at 68 Federal Register 17379-17395.

¹² Federal Register, December 31, 2003 at 68 Federal Register 75531-75552

¹³ Federal Register, October 24, 2003 at 68 Federal Register 61084-61096.

¹⁴ U.S. EPA, Office of Enforcement and Compliance Assurance, Permit Compliance System (PCS) database.

¹⁵ U.S. EPA, Office of Enforcement and Compliance Assurance, Clean Water Act/NPDES Computer Based Inspector Training CD ROM, August, 2003.

¹⁶ U.S. EPA, Office of Enforcement and Compliance Assurance, ICIS Phase II, Permit Compliance System Modernization, Final Design Document, September, 2003.

¹⁷ U.S. EPA, Office of Congressional and Intergovernmental Relations, Performance Partnership. Available at <http://www.epa.gov/ocirpage/nepps/index.htm>.

¹⁸ U.S. EPA, Office of Congressional and Intergovernmental Relations, Performance Partnership. Available at <http://www.epa.gov/ocirpage/nepps/index.htm>.

to FY 2003, NEPPS implementation has been a GAO or OIG major management challenge.

The Agency continues its long-term commitment to working with state agencies to improve management of national environmental programs and promote implementation of NEPPS. A joint EPA-Environmental Council of States (ECOS) workgroup was established in the spring of 2003 to further advance joint planning and performance partnerships. After a series of working sessions, EPA and state leaders agreed to better align EPA national, regional, and state planning processes and facilitate more meaningful joint priority setting. To strengthen the role of PPAs as the defining document for the state-EPA partnership, they also agreed upon the essential elements of PPAs. Implementation will begin in 2004, with particular focus on piloting the improved processes with a subset of states that have expressed an interest and commitment to participate during the FY 2005 planning cycle. The EPA-ECOS workgroup will monitor the initial effort to ensure continuous improvement.

The Performance Partnership Steering Committee comprised of senior leaders from across EPA, meets periodically to provide overall direction and resolve policy issues related to improving performance partnerships. Responding to a major need identified during a joint EPA-state meeting on PPGs in January 2003, EPA developed a PPG training course that was delivered to EPA and state officials in a series of workshops across the country during the year. In FY 2004, EPA will focus on addressing issues raised during the training sessions. These issues include timing of grants, use of carryover funds, joint evaluation, and mitigating conflicts between performance partnership principles and categorical grants guidance. Regional and program office NEPPS coordinators hold regular conference calls to share experiences and discuss issues, and the Agency continues periodic reporting on the status of PPAs and PPGs to keep the states, Congress, and other stakeholders and partners informed. With these activities serving as the foundation for further progress, EPA is committed to continuing training, working group sessions, joint reviews, and developing and implementing a strategy to market the successes and benefits of performance partnerships.

Information System Security

EPA continues to improve the management and oversight of the Agency information security program with the development and implementation of effective information security tools and processes

that mitigate risks to the Agency's data and systems. From FY 2001 to FY 2003 this topic has been an Integrity Act weakness, and GAO or OIG management challenge.

EPA has successfully demonstrated and maintained a high level of security for its information resources and environmental data. 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,¹⁹ and in FY 2003, the Agency validated the effectiveness of these corrective actions. The corrective actions include ensuring annual security self-assessments of Agency general support systems and major applications in accordance with Federal Information Security Management Act²⁰ and relevant OMB directives; conducting in-depth analyses of Capital Planning and Investment Control system security plans to determine that the controls provide the anticipated protections; ensuring regular risk assessments and follow-up on major applications and general support systems; monitoring Agency networked computer servers for compliance with security standards and sending quarterly reports to senior officials summarizing their compliance status; conducting internal and external network penetration testing; and monitoring EPA's firewall and intrusion detection system to ensure security of the Agency's cyber perimeter.

EPA plans to sustain information security improvements through consistent security control implementation, ongoing evaluation, and regular testing to ensure that the policies and procedures are effective. In FY 2004, the Agency will focus on establishing a robust quality assurance program, improving the security training program for staff with significant security responsibilities, ensuring contingency plans are updated, and establishing a process to ensure that the Agency's information security practices are implemented throughout the life cycle of information technology systems.

Information Resources Management (IRM) and Data Quality/Environmental and Performance Information Management

To acquire, manage, and deliver the data the Agency needs to make decisions and monitor

¹⁹ FY 2001 Defense Authorization Act, Public Law 106-398, Title X, Subtitle G.

²⁰ FY 2003 Electronic Government Act, Public Law 107-347, Title III.

progress against environmental goals, EPA continues to improve data management and use by providing tools and planning processes for effective data sharing, data integration, and identification of key data gaps. From FY 2001 to FY 2003 this issue has been an Integrity Act weakness and a GAO and OIG management challenge.

EPA's progress includes completion of the *EPA Strategic Information Plan, A Framework for the Future*,²¹ promulgation of six Reinventing Environmental Information data standards;²² development of the Data Architecture, a component of the Agency Enterprise Architecture (EA);²³ development of the draft *Data and Information Quality Strategic Plan*,²⁴ completion of a second set of six new data standards;²⁵ and improvement of data collection processes through the Central Data Exchange.²⁵ EPA is working with the states and tribes, through the Environmental Data Standards Council, to develop data standards for the exchange of environmental data. To facilitate data standard implementation, EPA has established technical and business guidelines for the use of standard data elements, and is providing technical assistance. Building on the FY 2003 *Draft Report on the Environment*,²⁶ EPA is continuing the Environmental Indicators Initiative, a long-term effort to work with stakeholders, partners and the public to identify and fill key data gaps.

All EPA organizations have approved Quality Management Plans, and are focusing on implementing and integrating quality procedures into business practices. During 2004, EPA will continue its efforts with states and tribes to develop the National Environmental Information Exchange

Network, a web-based system that enables electronic data exchanges that improve data quality and timeliness, reduce burden and costs, and improve public access. The Agency plans for at least 25 states to have Exchange servers by the end of FY 2004.

EPA efforts to improve oversight and management of Agency laboratory quality systems include developing a web site of best practices of laboratory policies, procedures, tools and training to improve capacity to produce quality environmental data. The Agency's Forum on Environmental Measurements (FEM) developed a draft policy to ensure and demonstrate the competency of Agency laboratories. The draft policy, currently undergoing Science Policy Council review, requires Agency laboratories to become accredited and participate in inter-laboratory comparison studies to demonstrate continuing competency. The draft policy also mandates assessments by external organizations or assessors in cases where appropriate accreditation programs do not exist.

Making Regulatory Innovations Successful²⁷

EPA has invested considerable time and resources to "reinvent" environmental regulations within the existing statutory framework, but GAO is concerned that EPA must address statutory obstacles in order for innovative regulatory programs to succeed. In FY 2002 and FY 2003, regulatory reinvention has been a GAO major management challenge.

EPA is committed to continue testing and implementing innovative approaches to achieve environmental results. This continued commitment allows progress to occur in the near term, while gaining experience in how new legislative authority could address impediments without undermining the benefits of today's environmental statutes or sacrificing important safeguards in the Nation's environmental protection system. In 2003, EPA continued and enhanced its robust approach to regulatory innovation. For example, EPA has been instrumental in its facilitation of the transfer of the Environmental Results Program (ERP), an innovation model originated in Massachusetts self-certification innovation launched in the late 1990's, to other states and environmental problem areas. ERP interlinks the three components of compliance assistance, self-certification and performance measurement. ERP

²¹ *EPA Strategic Information Plan: A Framework for the Future*. Available at www.epa.gov/oei/pdf/Strategic_Information_Plan_7_29_02.pdf

²² U.S. EPA, Environmental Data Registry. Available at <http://www.epa.gov/edr/>

²³ U.S. EPA, *DRAFT Data and Information Quality Strategic Plan* (January 2002). Available from the Office of Environmental Information's Office of Planning, Resources, and Outreach.

²⁴ U.S. EPA, *EPA Enterprise Architecture, Version 1.0* (January 2003). Available from the Office of Environmental Information's Office of Technology and Operations Planning.

²⁵ U.S. EPA, Central Data Exchange. Available at www.epa.gov/cdx/

²⁶ U.S. EPA *Draft Report on the Environment 2003* (EPA-260-R-02-006, June 2003), available at <http://www.epa.gov/indicators/roe/index.htm>.

²⁷ U.S. EPA National Center for Environmental Innovation. Available at <http://www.epa.gov/innovation>.

compliance assistance brings together all regulatory requirements and pollution prevention best management practices in a “plain English” workbook. Facility self-certification can be single or multimedia based and is prepared in a user friendly format. ERP performance measurement is based on statistically valid inspection protocols and allows tracking whole business sectors as well individual facilities. The three components are interlinked so workbook sections relate directly to self-certification questions and inspection protocols for performance measurement and tracking. The Massachusetts Department of Environmental Protection (MA DEP) has found that ERP reduces cost and burden for regulators and regulated entities. MA DEP estimates that ERP has resulted in dry cleaners reducing their perchloroethane emissions by 22 tons, and printers their volatile organic compound emissions by 4 tons. Also, underground storage tanks ERP projects are being implemented in several states as well as other small-business dominated sectors.

EPA continues to work with the Environmental Council of the States (ECOS) to improve the EPA processes needed to create regulatory flexibility for state innovation projects. For example, EPA and ECOS are developing a Joint Workplan designed to align EPA and state innovation efforts so they address the same priority environmental problems, leveraging the combined efforts of EPA and the states, and driving innovation into core state environmental programs. EPA also successfully piloted a state innovation grant competition and awarded several state grants to provide seed money to the state-initiated projects. Based on an independent evaluation of the first-year innovation competition, the Agency is expanding this state innovation funding idea. The second solicitation was issued in October 2003 and is targeted at priorities identified in consultation with states and other stakeholders. This kind of program, and the discussion between state environmental commissioners and EPA senior leadership, can inform the legislative process, and potentially support a clearer understanding of how specific legislative provisions could be designed to overcome perceived barriers in existing statutes. The greatest potential and anticipated benefit of this innovation work is effectively taking lessons learned during experimental pilots and applying them to our national and state programs, and potentially making regulatory change. EPA is working with the states in the grant program to measure and evaluate the results of the state pilots. EPA describes a specific strategic target for the State Innovation Grant Program in the Agency’s Strategic Plan for 2003-2008 to measure improvement in environmental protection resulting

from alternative approaches to environmental protection.

Human Capital Strategy Implementation/Employee Competencies

EPA recognizes the importance of placing the right people, with the appropriate skills, where they are needed. The Agency needs a systematic approach to workforce planning, supported by reliable and valid workforce data, and should focus on sustaining adequate scientific expertise. From FY 2001 to FY 2003 this issue has been an Integrity Act weakness, and a GAO and OIG management challenge.

EPA made significant progress toward addressing this weakness and achieving the President’s Management Agenda (PMA) Human Capital initiative. EPA received green progress scores for five of six quarters.²⁸ The Agency aligned its human capital planning activities with strategic planning and budgeting processes. EPA has issued a new *Strategy for Human Capital, Investing in Our People II, 2004 and Beyond*²⁹ to build on a history of solid accomplishments and chart the course for the future. The Strategy identifies 80 specific action items for FY 2004 that set the stage for achieving Human Capital excellence and for attaining a green status score in the Human Capital portion of the PMA. Some of those action items include:

- I. Implementing the National Strategic Workforce Planning System,³⁰ which links competencies to mission needs along major occupations, and will provide managers with a tool to inventory workforce competencies and project future needs to identify skill gaps.
- II. Continuing to offer successful developmental programs that address the

²⁸ U. S. Executive Office of the President. “The President’s Management Agenda.” Washington, DC: Available only on the Internet at:

<http://www.results.gov/agenda/index.html>

²⁹ U.S. EPA, Office of Administration and Resources Management. “Strategy for Human Capital, Investing in Our People II, 2004 and Beyond.” Washington, DC: EPA. Available only on the Intranet at:

<http://intranet.epa.gov/oarm/2003shc/index.html>

³⁰ U. S. EPA, Office of Administration and Resources Management. “National Strategic Workforce Planning System.” Washington, DC: EPA. Available only on the intranet at:

<http://intranet.epa.gov/institute/wds/planning.htm>

needs of all employees from administrative personnel to executive leadership.

III. Assessing the effectiveness of the Workforce Development Strategy³¹ programs, by conducting several program evaluations and making enhancements as indicated by these evaluations. These evaluations will serve as a “test bed” for an evaluation methodology that will be applied to other human capital initiatives.

IV. Providing greater support for national recruitment initiatives and developing a coordinated approach to Agency-wide recruitment and outreach initiatives.

To ensure that the Agency’s Human Capital activities support the agency mission and are being effectively conducted, EPA is implementing a Human Capital Accountability Plan.

Protecting Critical Infrastructure from Non-Traditional Attacks

While EPA’s efforts to enhance critical infrastructure protection are commendable, EPA needs to better define expectations and develop systems to effectively measure and analyze program performance to ensure the desired state of security and achieve its goals. This issue has been an OIG management challenge since FY 2002.

EPA made significant progress in implementing the Agency’s *Homeland Security Strategic Plan*,³² a comprehensive approach to carrying out EPA’s responsibilities in responding to and recovering from acts of environmental and other terrorists attacks. In FY 2003, EPA established an Office of Homeland Security (OHS) as the lead office for ensuring implementation of the *Homeland Security Strategic Plan*, coordinating homeland security policy development across EPA, and serving as primary liaison with senior officials in the Department of Homeland Security and other Federal agencies with responsibilities for homeland security. The *Homeland Security Strategic Plan* was updated and is currently undergoing a quality control review.

³¹ U. S. EPA Office of Administration and Resources Management. “Workforce Development Strategy.” Washington, DC: EPA. Available only on the Intranet at: <http://intranet.epa.gov/institute/wds.htm>

³² U.S. EPA Strategic Plan for Homeland Security. Available at http://www.epa.gov/epahome/downloads/epa_homeland_security_strategic_plan.pdf

EPA plans to release the updated *Plan* during the second quarter of FY 2004.

EPA responded to requests for information and reports from the White House Homeland Security Council, Department of Homeland Security, White House Office of Management and Budget, General Accounting Office, Congress, and members of the public. The Agency is also developing a homeland security information management system.

EPA is working to complete a number of inter- and intra-agency efforts related to homeland security, including critical infrastructure, bio-defense, and laboratory capacity. In addition, EPA convened a Homeland Security Policy Coordinating Committee, and is working with senior staff to develop and resolve homeland security policy priorities at EPA. EPA also formed a working group to explore issues associated with the management and analysis of national security information and other sensitive information. The group completed a program review during the first quarter of FY 2004, and EPA is currently reviewing proposed recommendations. EPA’s plans to implement accepted recommendations should begin during the second quarter of FY 2004.

Linking Mission and Management

OIG believes that EPA has begun developing the process for linking resources to results, but needs to strengthen its ability to link costs to goals by working cooperatively with its State and Federal agency partners to develop more outcome-oriented goals and measures, and by improving Agency accounting procedures. This issue has been an OIG management challenge from FY 2001 to FY 2003.

EPA’s sustained focus on improving the way the Agency manages for results and uses cost and performance information in decision making has resulted in government-wide recognition for the Agency’s achievements in Budget and Performance Integration under the President’s Management Agenda. The Agency’s accomplishments in FY 2003 include the following: (1) revising EPA’s strategic plan to include five outcome-oriented goals and supporting objectives and sub-objectives that have clear linkages with the work of regions, states, and tribes; (2) developing Regional Plans as a common framework for linking EPA’s Regional priorities to the Agency’s five strategic goals; (3) increasing the use of annual performance information and trend data in developing the FY 2005 budget; and (4) developing more outcome-oriented annual

performance goals and measures as well as efficiency measures. In addition, in FY 2003, EPA enhanced its cost accounting capabilities and strengthened the linkages between resources and performance by developing a new accounting framework that will allow EPA to track resources across the five new goals. Further, EPA released a *Draft Report on the Environment*³³ as part of the Agency's "environmental indicators initiative," which is intended to help assess the current state of the environment and to provide a baseline against which future performance can be measured.

EPA joined only two other Federal agencies in receiving a "green" status score for Improved Financial Performance. OMB provided this distinction in recognition of the Agency's significant accomplishments in these areas, including EPA's use of financial and performance information in day-to-day program management and decision making. OMB also provided the Agency with progress scores of "green" for Budget and Performance Integration under the President's Management Agenda for the seventh consecutive quarter since June 2002. EPA received a 2003 President's Quality Award for financial management,³⁴ the highest recognition in government given to Federal agencies for excellence in management. In addition, EPA was selected as a finalist last year for the 2002 President's Quality Award in the area of Budget and Performance Integration.³⁵ While EPA acknowledges the importance of the improvement opportunities identified by the OIG, it has made significant progress in this area, and is effectively working on further achievements.

Grants Management and Use of Assistance Agreements

EPA needs to improve oversight for the award and administration of assistance agreements to ensure effective and efficient use of resources. From FY 2001 to FY 2003 this issue has been an EPA weakness, and a GAO, OMB or OIG management challenge.

³³ U.S. EPA *Draft Report on the Environment* 2003 (EPA-260-R-02-006, June 2003), available at <http://www.epa.gov/indicators/roe/index.htm>.

³⁴ EPA received 2003 Presidential Award for Management Excellence, media advisory. Available at <http://www.opm.gov/pressrel/2003/WA-PQA.asp>.

³⁵ EPA selected as finalist for the 2002 Presidential Quality Award in Area of Budget and Performance Integration, news release. Available at http://www.whitehouse.gov/news/releases/2002/11/20021125_2.html.

Each fiscal year, EPA awards, on the average, slightly less than half of the Agency's budget in grants,³⁶ and it is implementing a comprehensive approach to manage these grant dollars effectively and ensure they further the Agency's mission. Specifically, in FY 2003, EPA developed the Agency's first long-term Grants Management Plan.³⁷ The Plan provides the framework for ensuring that EPA's grant programs meet the highest management and fiduciary standards and further the Agency's strategic program goals.

A key objective of the long-term Plan is to strengthen accountability for grants management. To that end, EPA issued directives emphasizing the need to hold staff accountable for effective grants management, and requiring managers to include compliance with grants management policies in mid-year performance discussions with staff. In addition, EPA is requiring Headquarters and Regional offices to include in their Integrity Act Assurance letters a description of their efforts to address the grants management weakness. The Agency is supplementing these efforts with an ongoing review of employee performance standards to ensure that standards adequately reflect grants management responsibilities.

EPA is aggressively implementing its recently established policies for grants competition and post-award monitoring. In FY 2003, the Agency has more than doubled the percentage of competitive awards to non-profit organizations covered by the competition policy over the level achieved in FY 2002, and the new post-award monitoring policy will significantly increase the level of baseline and advanced monitoring of grantees. All Agency Senior Resource Officials (SROs) submitted FY 2003 post-award monitoring plans to ensure a strong level of commitment to effective grants management and accountability. EPA also has developed a new performance incentives award program for grants management that will recognize offices that exceed the performance measures in the long-term Plan. Other accomplishments include: revamped training programs focusing on core competencies of project officers and grants specialists; a comprehensive, new system of grants management reviews of EPA offices; highlighting in the Agency's 2003 Strategic

³⁶ U.S. EPA, Office of Administration and Resources Management. "EPA Grants Information and Control System (GICS) database." Washington, DC: EPA.

³⁷ U.S. EPA, Office of Administration and Resources Management. "EPA Grants Management Plan." Washington, DC: EPA. Available only through the Internet: <http://www.epa.gov/ogd/EO/finalreport.pdf>

Plan the importance of effective grants management in carrying out the Agency's strategic goals; developing an interim policy on grant environmental

results; and convening two meetings of the Grants Management Council, composed of SROs, to provide for high-level planning and coordination.

EPA USER FEE PROGRAM

In FY 2005, EPA will have several user fee programs in operation. These user fee programs are as follows:

Current Fees**?? 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 2005 if the existing fee structure is not altered in FY 2004. 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 2005.

Pesticides Fees

The FY 2005 President's Budget assumes passage of the FY 2004 Omnibus Appropriations Act, which includes authorization for a new fee structure for the pesticides program, under the Pesticides Registration Improvement Act for 2003. The new structure includes an extension to the Maintenance fee for older pesticide review, and a new Enhanced Registration Services fee, which will allow the Agency to accelerate the review of new registration actions for pesticides.

?? Pesticides Maintenance Fee Extension

The Maintenance Fee provides funding for both the Tolerance Reassessment and the Reregistration programs. The Pesticides Registration Improvement Act extends the maintenance fee through 2008, to coincide with the schedules for these programs. Tolerance reassessment is slated for completion in 2006, under the FQPA statute, and the final reregistration decisions are scheduled for 2008. In FY 2005, the Agency expects collections of \$27,000,000.

?? Enhanced Registration Services

The Pesticides Registration Improvement Act includes fees for accelerated service on registration decisions for pesticides. This will allow industry to move new pesticides to the market more quickly, often providing an alternative to older, riskier pesticides in use. These fees will be paid to the Agency at the time the registration action request is submitted. In FY 2005, Agency collections are estimated at \$19,400,000.

?? 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 2005. 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 2005.

?? Pesticides Registration Fee

The Pesticides Registration Improvement Act rescinds the authority to collect pesticides registration fees to offset base program costs. This budget proposes amending the Act to allow collection of this fee. Collections are estimated at \$26,000,000.

?? Motor Vehicle and Engine Compliance Program Fee

This fee is authorized by the Clean Air Act of 1990 and is managed by the Office of Air and Radiation. Fee collections began in August 1992. This fee is imposed on manufacturers of light-duty vehicles, light and heavy trucks and motorcycles. EPA has

a final rule currently under review at OMB that updates fees for industries currently paying fees and setting forth fees for newly regulated vehicles and engines. The fees established for new compliance programs are imposed on heavy-duty, in-use, and nonroad industries, including large diesel and gas equipment (earthmovers, tractors, forklifts, compressors, etc), handheld and non-handheld utility engines (chainsaws, weed-wackers, leaf-blowers, lawnmowers, tillers, etc.), marine (boat motors, tugs, watercraft, jet-skis), locomotive, aircraft and recreational vehicles (off-road motorcycles, snowmobiles). The fees cover EPA's cost of certifying new engines and vehicles and monitoring compliance of in-use engines and vehicles. In FY 2005, EPA expects to collect \$18,000,000 from this fee.

WORKING CAPITAL FUND

In FY 2005, the Agency begins its ninth 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 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 initiated the WCF in FY 1997 as part of an 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 Associate Chief Financial Officer, 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 2005. These are the Agency's data processing and telecommunications operations, managed by the Office of Technology Operations and Planning, and Agency postage costs, managed by the Office of Administration. The Agency's FY 2005 budget request includes resources for these two Activities in each National Program Manager's submission, totaling approximately \$148.0 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.

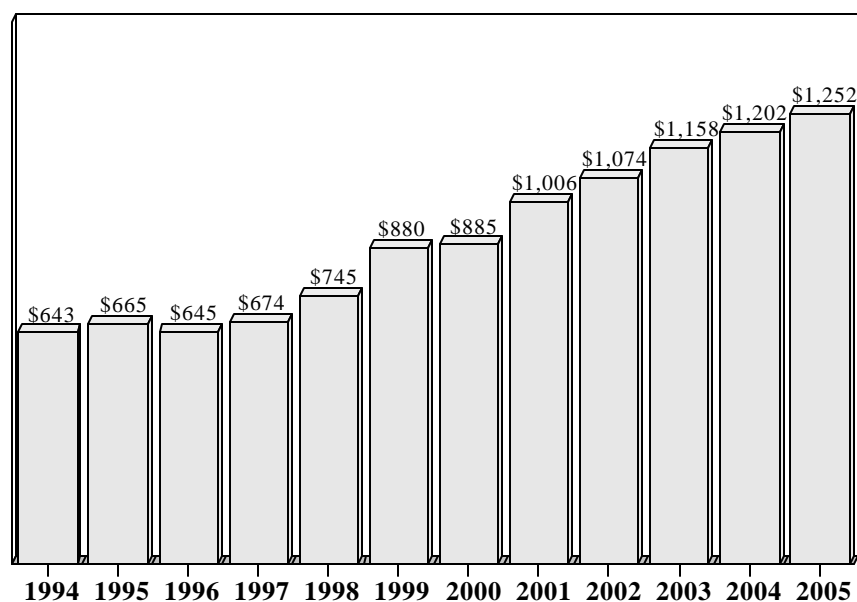
STATE and TRIBAL ASSISTANCE GRANTS (STAG)**Appropriation Account**

(Dollars in thousands)

	FY 2003 Enacted Budget	FY 2004 President's Budget	FY 2005 Pres Bud Total	Difference FY 2005 PB v. FY 2004 PB
STATE and TRIBAL GRANT ASSISTANCE	\$1,142,901.8	\$1,202,700.0	\$1,252,300.0	\$49,600.0
INFRASTRUCTURE ASSISTANCE				
<u>State Revolving Funds</u>				
Clean Water State Revolving Fund	\$1,341,225.0	\$850,000.0	\$850,000.0	\$0.0
Drinking Water State Revolving Fund	\$844,475.0	\$850,000.0	\$850,000.0	\$0.0
-----	-	-	-	-
Total Infrastructure	\$2,185,700.0	\$1,700,000.0	\$1,700,000.0	\$0.0
STAG PROJECTS				
Brownfields Projects	\$89,911.8	\$120,500.0	\$120,500.0	\$0.0
Clean School Bus Initiative			\$65,000.0	\$65,000.0
<u>Special Needs Projects</u>				
Mexican Border	\$49,675.0	\$50,000.0	\$50,000.0	\$0.0
Alaskan Native Villages	\$42,723.1	\$40,000.0	\$40,000.0	\$0.0
Puerto Rico	-----	\$8,000.0	\$4,000.0	-\$4,000.0
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Total Special Needs Projects	\$92,398.1	\$98,000.0	\$94,000.0	-\$4,000.0
Congressional Earmarks	\$323,992.3	\$0.0	\$0.0	\$0.0
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Total - STAG Projects	\$506,302.2	\$218,500.0	\$279,500.0	\$61,000.0
TOTAL STAG	\$3,834,904.0	\$3,121,200.0	\$3,231,800.0	\$110,600.0

CATEGORICAL GRANTS PROGRAM (STAG)

(Dollars in millions)



In FY 2005, the President's Budget requests a total of \$1,252 million for 25 "categorical" program grants for state and Tribal governments. This is an increase of \$49.6 million over FY 2004. 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 FY 2005, 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:

State & Local Air Quality Management, Radon, and Tribal Air Quality Management Grants

In FY 2005, the President's Budget includes \$247.8 million for Air State and Local Assistance grants to support state, local, and Tribal air programs as well as radon programs. State and Local Air Quality Management grant funding is requested in the amount of \$228.6 million. These funds provide resources to state and local air pollution control agencies for the development and implementation of programs for the prevention and control of air pollution or for the implementation of national primary and secondary ambient air standards. They can also be used to support certain research and development and related activities. Tribal Air Quality Management grants, requested in the amount of \$11.1 million, provide funds to Tribes to develop and implement air pollution prevention and control programs, or to implement national primary and secondary ambient air standards. Lastly, the President's Budget includes \$8.2 million for Radon grants, to provide funding for state radon programs.

Pesticide Enforcement, Toxics Substance Compliance, and Sector Program Grants

In FY 2005, 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.

Pesticides Program Implementation Grants

The President's FY 2005 budget includes \$13.1 million for Pesticides Program Implementation grants. These resources will assist states and tribes in implementing the safer use of pesticides, including: worker protection; certification and training of pesticide applicators; protection of endangered species; tribal pesticide programs; integrated pest management and environmental stewardship; and protection of water from pesticide contamination.

Lead Grants

The President's FY 2005 budget includes \$13.7 million for Lead grants. This funding will support the development of authorized programs in both States and Tribes to prevent lead poisoning through the training of workers who remove lead-based paint, the accreditation of training programs, the certification of contractors, and renovation education programs. Another activity that this funding will support is the collection of lead data to determine the nature and extent of the lead problem within an area.

Pollution Prevention Grants

The FY 2005 request includes \$6.0 million for Pollution Prevention grants. The grant program

provides technical assistance towards the achievement of reduced pollution through source reduction.

Environmental Information Grants

In FY 2005, the President's Budget includes \$25.0 million to continue a grant program, started in 2002, which provides 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

Underground Storage Tanks (UST) Grants

The President's FY 2005 budget includes \$37.9 million for Underground Storage Tank grants, an increase of \$26 million over 2004. The proposed \$26 million increase in state and tribal grants would allow EPA to fund additional inspections of underground storage tanks. More inspections will ensure proper operation and maintenance of UST systems to prevent future releases. This investment more than triples the size of Federal assistance to states and tribes for the UST program. States and tribes will use these resources to ensure that UST owners and operators routinely and correctly monitor all regulated tanks and piping in accordance with regulations, and also to develop programs with sufficient authority and enforcement capabilities to operate in lieu of the Federal program.

Hazardous Waste Financial Assistance Grants

In FY 2005, the President's Budget includes \$106.4 million in funding for Hazardous Waste Financial Assistance grants. Hazardous Waste Financial Assistance grants are used for the implementation of both the Resource Conservation and Recovery Act (RCRA) hazardous waste management and minimization programs.

Brownfields Grants

In FY 2005, the President's Budget includes \$60.0 million, to continue the Brownfields grant program that provides assistance to states and tribes to develop and enhance their state and Tribal response programs. This funding will help states and tribes develop legislation, regulations, procedures, and guidance, to establish or enhance the

administrative and legal structure of their response programs.

Water Pollution Control (Clean Water Act Section 106) Grants

In FY 2005, the President's Budget includes \$222.4 million for Water Pollution Control grants, an increase of \$22.0 million over 2004. Of this increase, \$17.0 million will fund grants to states and tribes under the water quality monitoring initiative to support adoption of new comprehensive monitoring strategies and the development of statistically valid monitoring networks to help target activities and determine water quality status and trends. The remaining \$5 million will assist states in the implementation of the Concentrated Animal Feeding Operations (CAFOs) programs and support issuance of storm sewer permits.

Wetlands Grants

In FY 2005, the President's Budget includes \$20.0 million for Wetlands Program Grants. These grant resources will be used to assist states and tribes in protecting wetlands and waters not covered by the Clean Water Act.

Public Water System Supervision Grants

In FY 2005, the President's Budget includes \$105.1 million for Public Water System Supervision (PWSS) grants. These grants provide 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.

Indian General Assistance Program Grants

In FY 2005, the President's Budget includes \$62.5 million for the Indian General Assistance Program (GAP) to help Federally recognized tribes and inter-tribal consortia develop, implement and assume environmental programs.

Homeland Security Grants

In FY 2005, the President's Budget includes \$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.

Water Quality Cooperative Agreements Grants

The FY 2005 President's Budget includes \$20.5 million for Water Quality Cooperative Agreements grants, an increase of \$1.5 million over 2004. This increase will fund a new technical assistance and demonstration grants program to show municipalities innovative ways of managing infrastructure. Through the Water Quality Cooperative Agreement program, the Agency continues to support the creation of unique and innovative approaches to address requirements of the NPDES program, with special emphasis on wet weather activities. In addition, this grant program has long supported other programmatic activities such as sustainable management systems for water pollution control and various other program innovations.

Underground Injection Control (UIC) Grants

The FY 2005 President's Budget includes \$11.0 million for the Underground Injection Control grants program. Ensuring safe underground injection of waste materials is a fundamental component of a comprehensive source water protection program. Grants are provided to states that have primary enforcement authority (primacy) to implement and maintain UIC programs.

Targeted Watershed Grants

The President's FY 2005 Budget funds Targeted Watershed grants at \$25 million, an increase of \$5 million over to help municipalities meet requirements for nutrient loading reductions. The program supports competitive grants to watershed stakeholders ready to undertake immediate action to improve water quality, and to improve watershed protection measures with tools, training and technical assistance. Special emphasis will be given to projects that promote water quality trading opportunities to more efficiently achieve water quality benefits through market-based approaches.

State and Tribal Performance Fund

The President's FY 2005 Budget includes \$23 million for a new performance grants program that will be available to states and tribes on a competitive basis for all activities eligible for categorical grant assistance. The award process will be performance-focused, with winners selected on the basis of environmental and/or public health outcomes. This will encourage development of projects with tangible, performance-based

environmental and health outcomes that can be models for implementation across the nation..

Wastewater Operator Training Grants

The President's FY 2005 Budget includes \$1.5 million as a transfer from EPM to STAG to better align its budget with its performance goals and reflect the environmental partnerships supported by these funds. States and state universities receive funding to provide technical assistance for municipally owned wastewater treatment plants.

Elimination of Tribal Cap on Non-Point Sources

In 2005, the President's Budget eliminates 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	FY2004 President's Budget	FY 2005 President's Budget	Difference FY 2005 v FY 2004
Air & Radiation			
State and Local Assistance	\$228,550.0	\$228,550.0	\$0.0
Tribal Assistance	\$11,050.0	\$11,050.0	\$0.0
Radon	\$8,150.0	\$8,150.0	\$0.0
	\$247,750.0	\$247,750.0	\$0.0
Water Quality			
Pollution Control (Section 106)	\$200,400.0	\$222,400.0	\$22,000.0
Beaches Protection	\$10,000.0	\$10,000.0	\$0.0
Nonpoint Source (Section 319)	\$238,500.0	\$209,100.0	(\$29,400.0)
Wetlands Program Development	\$20,000.0	\$20,000.0	\$0.0
Water Quality Cooperative Agrmts	\$19,000.0	\$20,500.0	\$1,500.0
Targeted Watersheds	\$20,000.0	\$25,000.0	\$5,000.0
Wastewater Operator Training Grants	\$0.0	\$1,500.0	\$1,500.0
	\$507,900.0	\$508,500.0	\$600.0
Drinking Water			
Public Water System Supervision (PWSS)	\$105,100.0	\$105,100.0	\$0.0
Underground Injection Control (UIC)	\$11,000.0	\$11,000.0	\$0.0
Homeland Security	\$5,000.0	\$5,000.0	\$0.0
	\$121,100.0	\$121,100.0	\$0.0
Hazardous Waste			
H.W. Financial Assistance	\$106,400.0	\$106,400.0	\$0.0
Brownfields	\$60,000.0	\$60,000.0	\$0.0
Underground Storage Tanks	\$11,950.0	\$37,950.0	\$26,000.0
	\$178,350.0	\$204,350.0	\$26,000.0
Pesticides & Toxics			
Pesticides Program Implementation	\$13,100.0	\$13,100.0	\$0.0
Lead	\$13,700.0	\$13,700.0	\$0.0
Toxic Substances Compliance	\$5,150.0	\$5,150.0	\$0.0
Pesticides Enforcement	\$19,900.0	\$19,900.0	\$0.0
	\$51,850.0	\$51,850.0	\$0.0
Multimedia			
Environmental Information	\$25,000.0	\$25,000.0	\$0.0
Pollution Prevention	\$6,000.0	\$6,000.0	\$0.0
Sector Program	\$2,250.0	\$2,250.0	\$0.0
Indian General Assistance Program	\$62,500.0	\$62,500.0	\$0.0
State and Tribal Performance Fund	\$0.0	\$23,000.0	\$23,000.0
	\$95,750.0	\$118,750.0	\$23,000.0
TOTALS	\$1,202,700.0	\$1,252,300.0	\$26,250.0

FY 2005 STAG CATEGORICAL PROGRAM GRANTS*Statutory Authority and Eligible Uses*

(Dollars in Thousands)

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2004 Request	FY 2005 Goal/ Objective	FY 2005 Request
State and Local Air Quality Management	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
State and Local Air Quality Management	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

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2004 Request	FY 2005 Goal/ Objective	FY 2005 Request
State and Local Air Quality Management	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.	\$176,050.0	Goal 1, Obj. 1	\$176,050.0

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2004 Request	FY 2005 Goal/ Objective	FY 2005 Request
Tribal Air Quality Management	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.	\$11,050.0	Goal 1, Obj. 1	\$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.	\$8,150.0	Goal 1, Obj. 2	\$8,150.0
Water Pollution Control (Section 106)	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.	\$200,400.0	Goal 2, Obj. 2	\$222,400.0

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2004 Request	FY 2005 Goal/ Objective	FY 2005 Request
Nonpoint Source (NPS – Section 319)	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.	\$238,500.0	Goal 2, Obj. 2	\$209,100.0
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.	\$20,000.0	Goal 4, Obj. 3	\$20,000.0
Water Quality Cooperative Agreements	FWPCA, as amended, § 104(b)(3); Safe Drinking Water Act, § 1442; 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, watersheds; and sustainable infrastructure management for both wastewater and drinking water systems.	\$19,000.0	Goal 2, Obj. 1 and Obj. 2	\$20,500.0
Targeted Watershed Grants	FWPCA, as amended, FY05 Appropriations Act	States, Local Governments, Tribes, Interstate Organizations, Intertribal Consortia, and Non-Profit Organizations	Assistance for watersheds to expand and improve existing watershed protection efforts.	\$20,000.0	Goal 4, Obj. 3	\$25,000.0

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2004 Request	FY 2005 Goal/ Objective	FY 2005 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.	\$105,100.0	Goal 2, Obj. 1	\$105,100.0
Homeland Security Grants	Safe Drinking Water Act, 1442; TCA in annual Appropriations Acts.	States, Tribes, and Intertribal Consortia	To assist States and Tribes in coordinating their water security activities with other homeland security efforts.	\$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.	\$11,000.0	Goal 2, Obj. 1	\$11,000.0
Beaches Protection	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

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2004 Request	FY 2005 Goal/ Objective	FY 2005 Request
Wastewater Operator Training Grants	Clean Water Act; Section 104(g)(1)	State Agencies and educational institutions	To fund programs for the development of training/ retraining of people in the fields of operation, maintenance and security of wastewater treatment works and related activities to maintain the effectiveness of systems.	\$1,500.0 in the EPM account	Goal 2, Obj. 2	\$1,500.0 in the STAG account
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	\$106,400.0	Goal 3, Obj. 1 Obj. 2	\$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.	\$180,500.0	Goal 4, Obj. 2	\$180,500.0

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2004 Request	FY 2005 Goal/ Objective	FY 2005 Request
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, Inspections, Surveys and Training; Develop & implement UST program.	\$11,950.0	Goal 3 Obj. 1	\$37,950.0
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.	\$13,100.0	Goal 2, Obj. 1 Goal 4, Obj. 1	\$13,100.0

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2004 Request	FY 2005 Goal/ Objective	FY 2005 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.	\$13,700.0	Goal 4, Obj. 1	\$13,700.0
Toxic Substances Compliance	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.	\$5,150.0	Goal 5, 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.	\$19,900.0	Goal 5, Obj. 1	\$19,900.0

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2004 Request	FY 2005 Goal/ Objective	FY 2005 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 4 Obj. 2	\$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.	\$6,000.0	Goal 4, Obj. 1	\$6,000.0

Grant Title	Statutory Authorities	Eligible Recipients*	Eligible Uses	FY 2004 Request	FY 2005 Goal/ Objective	FY 2005 Request
Sector Program (previously 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	\$2,250.0	Goal 5, Obj. 1	\$2,250.0
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 and develop Tribal environmental protection programs.	\$62,500.0	Goal 5, Obj. 3	\$62,500.0
State and Tribal Performance Fund	FY 2005 President's Budget	State and Tribal Governments	Projects with performance-based environmental and public health outcomes	\$0.0	Goal 5, Obj. 2	\$23,000.0

* The Recipients listed in this column reflect assumptions in the FY 2005 Budget Request in terms of expected and/or anticipated eligible recipients.

INFRASTRUCTURE / STAG PROJECTS FINANCING*(Dollars in millions)*

	FY 2004 President's Budget	FY 2005 President's Budget
Infrastructure Financing		
Clean Water State Revolving Fund (CWSRF)	\$850.0	\$850.0
Drinking Water State Revolving Fund (DWSRF)	\$850.0	\$850.0
STAG Projects		
Brownfields Environmental Projects	\$120.5	\$120.5
Clean School Bus Initiative	\$0.0	\$65.0
Mexico Border Projects	\$50.0	\$50.0
Alaska Native Villages	\$40.0	\$40.0
Targeted Projects - Puerto Rico	\$8.0	\$4.0
Total	\$1,918.5	\$1,979.5

Infrastructure and Special Projects Funds

The President's Budget includes a total of \$1,979.5 million in 2005 for EPA's Infrastructure programs. Of the total infrastructure request, \$1,744 million will support EPA's Goal 2: Clean and Safe Water, \$170.5 million will support EPA's Goal 4: Healthy Communities and Ecosystems.

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, air and Brownfields environmental 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 included in this budget will enable the Agency, in conjunction with EPA's state, local, and Tribal partners, to achieve several important goals for 2005. Some of these goals include:

- 94 percent of the population served by community water systems will receive drinking water meeting all health-based standards with compliance dates of December 2001 or earlier.
- Award 126 assessment grants under the Brownfields program, bringing the cumulative total grants awarded to 806 by the end of FY 2005 paving the way for productive reuse of these properties. This will bring the total number of sites assessed to 6,800 while leveraging a total of \$7.5 billion in cleanup and redevelopment funds since 1995.

GOAL 1: CLEAN AIR AND GLOBAL CLIMATE CHANGE***Clean School Bus USA Initiative***

In FY 2005, EPA will receive \$65 million to retrofit school buses, a significant source of emissions that can cause health hazards in children. EPA began the Clean School Bus USA pilot program in April 2003 to provide schools and school districts cost-share grants to reduce diesel emissions from school buses. More than 24 million children that ride buses to school are at risk of exposure to high levels of diesel exhaust. Idling school buses can also compromise air quality around buses, including sidewalks, schoolyards, playgrounds, and even inside nearby buildings. By adopting better idling practices, retrofitting buses with modern emission control technology, using cleaner fuels and replacing older school buses, we have the potential of reducing PM emissions by more than 90 percent, helping to put tomorrow's cleaner buses on the road today.

GOAL 2: 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 includes funding the CWSRF at \$850 million each year through 2011. More than \$20 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 \$47 billion, of which more than \$43.5 billion has been provided to communities as financial assistance.

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 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. As noted in the May 2003 Report to Congress, since its inception in 1997, the Drinking Water State Revolving Fund (DWSRF) program has made available \$5.2 billion to finance 1,900 infrastructure improvement projects nationwide, with a return of \$1.60 for every \$1 of federal funds invested.

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 will 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.

Alaska Native Villages

The President's Budget includes \$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.

Puerto Rico

The President's Budget includes \$4 million for the design of upgrades to Metropolitano'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 4: HEALTHY COMMUNITIES AND ECOSYSTEMS***Brownfields Environmental Projects***

The President's Budget includes 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.

Mexico Border

The President's Budget includes 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 FY 2005 goal is to have a cumulative total of 1.5 million people in the Mexico border area protected from health risks because of adequate water and wastewater sanitation systems funded.

PROGRAM PROJECTS
(Dollars in Thousands)

Program Project	Appropriation	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
Acquisition Management	EPM	\$24,061.8	\$25,227.6	\$24,264.3
Acquisition Management	SUPERFUND	\$16,452.8	\$16,417.8	\$19,028.5
Acquisition Management	LUST	\$226.3	\$200.9	\$366.7
Administrative Law	EPM	\$4,464.4	\$4,705.1	\$4,929.3
Alternative Dispute Resolution	EPM	\$877.9	\$1,153.4	\$1,014.9
Alternative Dispute Resolution	SUPERFUND	\$0.0	\$0.0	\$874.7
Audits, Evaluations, and Investigations	SUPERFUND	\$12,110.4	\$13,213.6	\$13,138.6
Audits, Evaluations, and Investigations	IG	\$34,502.5	\$36,807.7	\$37,997.0
Base Realignment and Closure (BRAC)	SUPERFUND	(\$6.5)	\$0.0	\$0.0
Beach / Fish Programs	EPM	\$3,197.3	\$3,689.5	\$3,237.6
Brownfields	EPM	\$20,635.1	\$27,820.6	\$28,002.3
Brownfields	SUPERFUND	\$1,978.3	\$0.0	\$0.0
Categorical Grant: Beaches Protection	STAG	\$7,473.3	\$10,000.0	\$10,000.0
Categorical Grant: Brownfields	STAG	\$48,605.7	\$60,000.0	\$60,000.0
Categorical Grant: Environmental Information	STAG	\$18,514.0	\$25,000.0	\$25,000.0
Categorical Grant: Hazardous Waste Financial Assistance	STAG	\$104,940.8	\$106,400.0	\$106,400.0
Categorical Grant: Homeland Security	STAG	\$4,508.5	\$5,000.0	\$5,000.0
Categorical Grant: Lead	STAG	\$15,137.6	\$13,700.0	\$13,700.0
Categorical Grant: Nonpoint Source (Sec. 319)	STAG	\$228,776.9	\$238,500.0	\$209,100.0
Categorical Grant: Pesticides Enforcement	STAG	\$20,341.8	\$19,900.0	\$19,900.0
Categorical Grant: Pesticides Program Implementation	STAG	\$13,165.5	\$13,100.0	\$13,100.0
Categorical Grant: Pollution Control (Sec. 106)	STAG	\$193,648.9	\$200,400.0	\$222,400.0
Categorical Grant: Pollution Prevention	STAG	\$5,360.4	\$6,000.0	\$6,000.0
Categorical Grant: Public Water System Supervision (PWSS)	STAG	\$92,694.2	\$105,100.0	\$105,100.0
Categorical Grant: Radon	STAG	\$9,415.3	\$8,150.0	\$8,150.0
Categorical Grant: Targeted Watersheds	STAG	\$12,940.0	\$20,000.0	\$25,000.0
Categorical Grant: Toxics Substances	STAG	\$5,229.8	\$5,150.0	\$5,150.0

PROGRAM PROJECTS
(Dollars in Thousands)

Program Project	Appropriation	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
Compliance				
Categorical Grant: Tribal General Assistance Program	STAG	\$56,577.4	\$62,500.0	\$62,500.0
Categorical Grant: Underground Injection Control (UIC)	STAG	\$10,465.7	\$11,000.0	\$11,000.0
Categorical Grant: Underground Storage Tanks	STAG	\$11,655.8	\$11,950.0	\$37,950.0
Categorical Grant: Wastewater Operator Training	STAG	\$0.0	\$0.0	\$1,500.0
Categorical Grant: Water Quality Cooperative Agreements	STAG	\$18,155.7	\$19,000.0	\$20,500.0
Categorical Grant: Wetlands Program Development	STAG	\$14,206.2	\$20,000.0	\$20,000.0
Categorical Grant: Sector Program	STAG	\$2,609.9	\$2,250.0	\$2,250.0
Categorical Grant: State and Local Air Quality Management	STAG	\$229,633.4	\$228,550.0	\$228,550.0
Categorical Grant: State and Tribal Performance Fund	STAG	\$0.0	\$0.0	\$23,000.0
Categorical Grant:Tribal Air Quality Management	STAG	\$13,483.1	\$11,050.0	\$11,050.0
Central Planning, Budgeting, and Finance	EPM	\$55,931.3	\$62,043.4	\$64,486.8
Central Planning, Budgeting, and Finance	SUPERFUND	\$18,303.9	\$23,150.4	\$21,218.1
Central Planning, Budgeting, and Finance	LUST	\$654.2	\$949.6	\$950.4
Children and other Sensitive Populations	EPM	\$3,737.1	\$7,080.4	\$7,121.3
Civil Enforcement	EPM	\$100,780.1	\$108,751.1	\$113,395.4
Civil Enforcement	SUPERFUND	\$133.2	\$142.7	\$142.0
Civil Enforcement	OIL	\$1,423.1	\$1,588.2	\$1,628.7
Civil Rights / Title VI Compliance	EPM	\$8,491.7	\$12,113.8	\$12,414.2
Clean Air Allowance Trading Programs	EPM	\$15,520.7	\$16,453.2	\$17,495.8
Clean Air Allowance Trading Programs	S&T	\$4,189.4	\$9,352.9	\$9,352.9
Climate Protection Program	EPM	\$82,169.5	\$91,289.6	\$91,961.3
Climate Protection Program	S&T	\$19,588.0	\$17,320.3	\$17,458.9
Commission for Environmental Cooperation	EPM	\$4,374.0	\$3,937.8	\$3,948.8
Compliance Assistance and Centers	EPM	\$24,786.3	\$27,205.8	\$27,759.1
Compliance Assistance and Centers	LUST	\$401.9	\$586.5	\$585.3
Compliance Assistance and Centers	OIL	\$198.6	\$279.9	\$276.6

PROGRAM PROJECTS
(Dollars in Thousands)

Program Project	Appropriation	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
Compliance Assistance and Centers	S&T	\$268.0	\$0.0	\$0.0
Compliance Incentives	EPM	\$9,185.2	\$9,081.2	\$9,195.1
Compliance Incentives	SUPERFUND	\$403.8	\$176.0	\$175.6
Compliance Monitoring	EPM	\$56,567.5	\$58,155.0	\$62,216.7
Congressional, Intergovernmental, External Relations	EPM	\$54,010.1	\$47,267.7	\$48,366.0
Congressional, Intergovernmental, External Relations	SUPERFUND	\$138.2	\$184.5	\$184.0
Congressionally Mandated Projects	EPM	\$79,980.2	\$0.0	\$0.0
Congressionally Mandated Projects	SUPERFUND	\$28.9	\$0.0	\$0.0
Congressionally Mandated Projects	STAG	\$274,231.1	\$0.0	\$0.0
Congressionally Mandated Projects	S&T	\$44,613.9	\$0.0	\$0.0
Criminal Enforcement	EPM	\$30,874.4	\$30,276.1	\$31,370.0
Criminal Enforcement	SUPERFUND	\$9,574.1	\$7,800.7	\$8,535.7
Drinking Water Programs	EPM	\$83,373.3	\$96,132.8	\$97,947.9
Drinking Water Programs	S&T	\$2,746.4	\$2,952.7	\$2,999.7
Endocrine Disruptors	EPM	\$7,075.1	\$9,002.7	\$9,037.3
Enforcement Training	EPM	\$3,797.0	\$3,283.9	\$3,302.4
Enforcement Training	SUPERFUND	\$864.5	\$754.7	\$755.7
Environment and Trade	EPM	\$1,769.6	\$1,702.6	\$1,723.1
Environmental Education	EPM	\$5,281.0	\$0.0	\$0.0
Environmental Justice	EPM	\$3,721.6	\$4,144.3	\$4,230.5
Environmental Justice	SUPERFUND	\$770.6	\$900.0	\$900.0
Exchange Network	EPM	\$18,806.4	\$30,370.2	\$25,419.7
Exchange Network	SUPERFUND	\$2,476.0	\$2,925.1	\$2,342.5
Facilities Infrastructure and Operations	B&F	\$28,204.9	\$31,418.0	\$31,418.0
Facilities Infrastructure and Operations	EPM	\$284,373.5	\$313,311.4	\$326,793.8
Facilities Infrastructure and Operations	SUPERFUND	\$61,632.5	\$63,837.8	\$70,981.9
Facilities Infrastructure and Operations	LUST	\$1,036.7	\$1,053.1	\$883.9
Facilities Infrastructure and Operations	OIL	\$503.6	\$504.4	\$504.4
Facilities Infrastructure and Operations	S&T	\$9,249.6	\$8,715.8	\$8,715.8
Federal Stationary Source Regulations	EPM	\$19,120.1	\$23,702.2	\$24,302.0
Federal Support for Air Quality Management	EPM	\$83,423.5	\$87,004.8	\$93,283.6

PROGRAM PROJECTS
(Dollars in Thousands)

Program Project	Appropriation	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
Federal Support for Air Quality Management	S&T	\$9,950.6	\$10,033.3	\$10,048.7
Federal Support for Air Toxics Program	EPM	\$27,092.6	\$26,498.2	\$25,181.2
Federal Support for Air Toxics Program	S&T	\$1,426.0	\$2,560.0	\$2,582.9
Federal Vehicle and Fuels Standards and Certification	S&T	\$55,525.5	\$60,446.8	\$64,466.5
Financial Assistance Grants / IAG Management	EPM	\$15,073.7	\$17,373.8	\$20,328.9
Financial Assistance Grants / IAG Management	SUPERFUND	\$2,718.5	\$2,939.6	\$2,933.2
Forensics Support	SUPERFUND	\$3,264.7	\$5,695.9	\$4,189.3
Forensics Support	S&T	\$11,581.2	\$12,562.5	\$12,721.5
Geographic Program: Chesapeake Bay	EPM	\$21,755.2	\$20,777.7	\$20,816.6
Geographic Program: Great Lakes	EPM	\$16,810.7	\$18,104.2	\$21,194.8
Geographic Program: Gulf of Mexico	EPM	\$4,383.0	\$4,431.7	\$4,477.8
Geographic Program: Lake Champlain	EPM	\$2,666.6	\$954.8	\$954.8
Geographic Program: Long Island Sound	EPM	\$2,225.5	\$477.4	\$477.4
Geographic Program: Other	EPM	\$5,731.7	\$4,762.5	\$6,789.7
Great Lakes Legacy Act	EPM	\$0.0	\$15,000.0	\$45,000.0
Homeland Security: Communication and Information	EPM	\$874.0	\$3,820.3	\$4,320.3
Homeland Security: Critical Infrastructure Protection	EPM	\$3,820.0	\$6,844.2	\$6,840.8
Homeland Security: Critical Infrastructure Protection	SUPERFUND	\$361.1	\$770.7	\$852.6
Homeland Security: Critical Infrastructure Protection	S&T	\$14,186.4	\$24,782.3	\$3,515.6
Homeland Security: Preparedness, Response, and Recovery	EPM	\$688.8	\$1,827.4	\$1,839.8
Homeland Security: Preparedness, Response, and Recovery	SUPERFUND	\$66,237.6	\$35,625.2	\$29,163.2
Homeland Security: Preparedness, Response, and Recovery	S&T	\$3,273.7	\$24,917.6	\$25,396.0
Homeland Security: Protection of EPA Personnel and Infrastructure	B&F	\$10,281.4	\$11,500.0	\$11,500.0
Homeland Security: Protection of EPA Personnel and Infrastructure	EPM	\$23,719.6	\$6,288.0	\$6,344.3
Homeland Security: Protection of EPA	SUPERFUND	\$0.0	\$600.0	\$600.0

PROGRAM PROJECTS
(Dollars in Thousands)

Program Project	Appropriation	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
Personnel and Infrastructure				
Homeland Security: Protection of EPA Personnel and Infrastructure	S&T	\$5,967.1	\$2,100.0	\$2,100.0
Human Health Risk Assessment	SUPERFUND	\$1,796.4	\$3,916.9	\$3,951.8
Human Health Risk Assessment	S&T	\$25,739.6	\$32,578.1	\$32,880.4
Human Resources Management	EPM	\$39,536.6	\$42,384.6	\$44,139.5
Human Resources Management	SUPERFUND	\$6,955.1	\$6,803.4	\$4,410.6
Human Resources Management	LUST	\$0.0	\$3.0	\$3.0
Indoor Air: Asthma Program	EPM	\$9,062.6	\$11,097.0	\$11,197.3
Indoor Air: Environment Tobacco Smoke Program	EPM	\$2,832.8	\$3,617.5	\$3,695.1
Indoor Air: Radon Program	EPM	\$5,376.3	\$5,492.2	\$5,667.1
Indoor Air: Radon Program	S&T	\$467.3	\$378.9	\$398.5
Indoor Air: Schools and Workplace Program	EPM	\$7,955.7	\$10,320.2	\$10,352.1
Indoor Air: Schools and Workplace Program	S&T	\$1,049.5	\$856.0	\$906.1
Information Security	EPM	\$19,594.1	\$13,337.4	\$4,188.3
Information Security	SUPERFUND	\$1,948.9	\$0.0	\$508.9
Information Security	S&T	(\$26.8)	\$0.0	\$0.0
Infrastructure Assistance: Alaska Native Villages	STAG	\$41,810.6	\$40,000.0	\$40,000.0
Infrastructure Assistance: Brownfields Projects	STAG	\$81,953.4	\$120,500.0	\$120,500.0
Infrastructure Assistance: Clean School Bus Initiative	EPM	\$0.0	\$1,500.0	\$0.0
Infrastructure Assistance: Clean School Bus Initiative	STAG	\$0.0	\$0.0	\$65,000.0
Infrastructure Assistance: Clean Water SRF	STAG	\$1,386,537.4	\$850,000.0	\$850,000.0
Infrastructure Assistance: Drinking Water SRF	STAG	\$866,607.7	\$850,000.0	\$850,000.0
Infrastructure Assistance: Mexico Border	STAG	\$113,426.6	\$50,000.0	\$50,000.0
Infrastructure Assistance: Puerto Rico	STAG	\$0.0	\$8,000.0	\$4,000.0
International Capacity Building	EPM	\$11,774.0	\$6,176.9	\$6,854.0
IT / Data Management	EPM	\$88,443.9	\$116,081.7	\$133,182.4
IT / Data Management	SUPERFUND	\$16,381.7	\$17,459.0	\$18,067.3

PROGRAM PROJECTS
(Dollars in Thousands)

Program Project	Appropriation	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
IT / Data Management	LUST	\$52.2	\$143.7	\$177.6
IT / Data Management	OIL	\$37.7	\$23.8	\$32.8
IT / Data Management	S&T	\$3,527.6	\$4,057.8	\$4,821.4
Legal Advice: Environmental Program	EPM	\$33,132.3	\$33,879.1	\$34,678.8
Legal Advice: Environmental Program	SUPERFUND	\$781.4	\$843.8	\$844.0
Legal Advice: Support Program	EPM	\$8,871.3	\$12,240.9	\$12,521.7
LUST / UST	EPM	\$6,770.6	\$7,144.2	\$7,094.5
LUST / UST	LUST	\$12,645.8	\$10,581.0	\$10,499.6
LUST Cooperative Agreements	EPM	\$10.8	\$0.0	\$0.0
LUST Cooperative Agreements	LUST	\$55,787.9	\$58,399.1	\$58,450.0
Marine Pollution	EPM	\$7,070.0	\$12,049.9	\$12,296.0
National Estuary Program / Coastal Waterways	EPM	\$22,712.0	\$19,094.2	\$19,229.3
NEPA Implementation	EPM	\$11,204.2	\$12,315.4	\$12,654.2
Offsetting Receipts	Offsetting Receipts	\$0.0	(\$4,000.0)	(\$30,000.0)
Oil Spill: Prevention, Preparedness and Response	OIL	\$12,543.8	\$12,897.5	\$13,064.7
Pesticides: Field Programs	EPM	\$21,120.5	\$25,757.7	\$27,185.9
Pesticides: Registration of New Pesticides	EPM	\$40,362.9	\$33,699.0	\$42,907.0
Pesticides: Registration of New Pesticides	S&T	\$2,096.0	\$2,282.6	\$2,403.2
Pesticides: Review / Reregistration of Existing Pesticides	EPM	\$48,487.3	\$61,933.8	\$58,053.9
Pesticides: Review / Reregistration of Existing Pesticides	S&T	\$2,434.7	\$2,380.6	\$2,417.1
Pollution Prevention Program	EPM	\$15,450.3	\$17,098.7	\$22,496.2
POPs Implementation	EPM	\$2,090.9	\$2,224.4	\$2,235.4
Radiation: Protection	EPM	\$11,111.8	\$12,443.4	\$11,811.7
Radiation: Protection	SUPERFUND	\$2,138.0	\$2,336.5	\$2,323.2
Radiation: Protection	S&T	\$3,860.4	\$4,084.9	\$2,847.0
Radiation: Response Preparedness	EPM	\$3,009.5	\$2,401.0	\$2,610.9
Radiation: Response Preparedness	S&T	\$1,119.3	\$1,680.2	\$2,239.0
RCRA: Corrective Action	EPM	\$36,816.6	\$40,363.8	\$40,975.6
RCRA: Waste Management	EPM	\$59,706.6	\$67,381.6	\$67,422.3

PROGRAM PROJECTS
(Dollars in Thousands)

Program Project	Appropriation	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
RCRA: Waste Minimization & Recycling	EPM	\$15,433.3	\$12,771.6	\$14,301.7
Regional Geographic Initiatives	EPM	\$6,855.9	\$8,755.7	\$8,799.5
Regional Science and Technology	EPM	\$2,840.1	\$3,609.2	\$3,626.2
Regulatory Innovation	EPM	\$14,082.3	\$21,931.7	\$21,992.2
Regulatory/Economic -Management and Analysis	EPM	\$21,261.8	\$18,468.6	\$18,551.8
Research: Air Toxics	S&T	\$14,257.2	\$15,700.9	\$17,638.9
Research: Drinking Water	S&T	\$43,253.7	\$46,053.4	\$46,118.1
Research: Endocrine Disruptor	S&T	\$13,161.9	\$12,984.7	\$8,044.0
Research: Environmental Technology Verification (ETV)	S&T	\$2,619.0	\$4,011.8	\$2,996.8
Research: Human Health and Ecosystems	SUPERFUND	\$1.8	\$0.0	\$0.0
Research: Human Health and Ecosystems	S&T	\$163,548.9	\$190,730.8	\$177,407.5
Research: Land Protection and Restoration	SUPERFUND	\$14,190.3	\$24,960.5	\$22,671.1
Research: Land Protection and Restoration	LUST	\$607.8	\$628.5	\$628.5
Research: Land Protection and Restoration	OIL	\$875.9	\$915.0	\$917.8
Research: Land Protection and Restoration	S&T	\$9,448.8	\$10,064.5	\$8,841.9
Research: Particulate Matter	S&T	\$64,437.9	\$63,620.6	\$63,690.8
Research: Pesticides and Toxics	S&T	\$32,664.7	\$36,784.8	\$29,017.7
Research: Pollution Prevention	SUPERFUND	\$408.9	\$593.0	\$593.0
Research: Pollution Prevention	S&T	\$31,095.2	\$38,405.6	\$33,467.5
Research: SITE Program	SUPERFUND	\$4,781.1	\$6,941.1	\$6,927.7
Research: Troposphere Ozone	S&T	\$4,804.2	\$4,942.3	\$4,900.9
Research: Water Quality	S&T	\$46,934.1	\$47,178.5	\$46,809.8
Research: Computational Toxicology	S&T	\$5,436.9	\$8,948.6	\$13,028.7
Research: Fellowships	S&T	\$2,040.8	\$6,402.8	\$8,261.6
Research: Global Change	S&T	\$22,354.9	\$21,528.6	\$20,689.6
Science Advisory Board	EPM	\$3,748.7	\$4,409.0	\$4,757.1
Science Policy and Biotechnology	EPM	\$850.2	\$1,603.8	\$1,707.2
Small Business Ombudsman	EPM	\$3,048.6	\$3,764.9	\$3,838.7

PROGRAM PROJECTS
(Dollars in Thousands)

Program Project	Appropriation	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.
Small Minority Business Assistance	EPM	\$2,105.8	\$2,214.5	\$2,282.0
State and Local Prevention and Preparedness	EPM	\$10,273.0	\$12,508.1	\$12,134.8
Stratospheric Ozone: Domestic Programs	EPM	\$5,994.8	\$5,786.6	\$5,839.6
Stratospheric Ozone: Multilateral Fund	EPM	\$9,518.9	\$11,000.0	\$13,500.0
SUPERFUND: Emergency Response and Removal	SUPERFUND	\$217,880.1	\$199,803.9	\$201,088.0
SUPERFUND: Enforcement	SUPERFUND	\$158,487.3	\$155,307.5	\$155,537.2
SUPERFUND: EPA Emergency Preparedness	EPM	(\$0.2)	\$0.0	\$0.0
SUPERFUND: EPA Emergency Preparedness	SUPERFUND	\$17,927.0	\$10,130.1	\$10,091.4
SUPERFUND: Federal Facilities	SUPERFUND	\$28,838.1	\$32,744.2	\$32,182.0
SUPERFUND: Federal Facilities IAGs	SUPERFUND	\$6,749.0	\$10,022.6	\$10,044.4
SUPERFUND: Remedial	SUPERFUND	\$656,387.4	\$732,042.6	\$725,483.8
SUPERFUND: Support to Other Federal Agencies	SUPERFUND	\$10,178.8	\$10,676.0	\$10,676.0
Surface Water Protection	EPM	\$169,838.6	\$190,234.5	\$191,796.6
Toxic Substances: Chemical Risk Management	EPM	\$10,464.4	\$9,243.1	\$9,514.2
Toxic Substances: Chemical Risk Review and Reduction	Credit Subsidy Re-estimate	\$905.5	\$0.0	\$0.0
Toxic Substances: Chemical Risk Review and Reduction	EPM	\$41,306.9	\$45,536.2	\$45,878.8
Toxic Substances: Lead Risk Reduction Program	EPM	\$11,263.0	\$14,832.9	\$11,082.6
TRI / Right to Know	EPM	\$14,490.6	\$14,609.2	\$15,940.9
TRI / Right to Know	S&T	\$197.0	\$81.4	\$0.0
Tribal - Capacity Building	EPM	\$9,555.8	\$10,494.1	\$10,641.7
US Mexico Border	EPM	\$4,967.7	\$6,484.4	\$5,784.8
Wetlands	EPM	\$17,129.2	\$19,299.9	\$19,752.8

PROGRAM ASSESSMENT RATING TOOL (PART)

LEAKING UNDERGROUND STORAGE TANKS

1.	Recommendation	Completion Date	On Track? (Y/N)	Comments on Status
	Establish outcome performance measures	09/30/04	Y	In all LUST cleanups, a health or environmental based outcome must be achieved before the cleanup can be considered complete.
	Next Milestone	Next Milestone Date	Lead Organization	Lead Official
	Risk Screening Env. Index: new analyses to refine targets, e.g., use of GIS methods to better illustrate what a completed cleanup means in various states.	09/30/04	Office of Solid Waste and Emergency Response	Sammy Ng

2.	Recommendation	Completion Date	On Track? (Y/N)	Comments on Status
	Establish efficiency measures.	09/30/04	Y	Currently developing measures of national program efficiency, including the creation of a baseline from which future performance evaluations can be based (FY 2004 and beyond).
	Next Milestone	Next Milestone Date	Lead Organization	Lead Official
	Potential efficiency measure identified, further analysis needed to verify or develop baselines/metrics	09/30/04	Office of Solid Waste and Emergency Response	Sammy Ng

AIR TOXICS

1.	Recommendation	Completion Date	On Track? (Y/N)	Comments on Status
	Increase funding for toxic air pollutant programs in the FY 2004 budget by \$7 million in State grants for monitoring to help fill data gaps.	04/01/04	Y	Requested funding provided by Congress.
	Next Milestone	Next Milestone Date	Lead Organization	Lead Official

Final funding level will be determined during the agency's FY 2004 operating plan development process.	04/01/04	Office of Air and Radiation	Jerry Kurtzweg
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2.	Recommendation	Completion Date	On Track? (Y/N)	Comments on Status
	Focus on maximizing programmatic net benefits and minimizing the cost per deleterious health effect avoided.	Ongoing	Y	EPA will complete the remaining MACT standards and continue work on the residual risk program.
	Next Milestone	Next Milestone Date	Lead Organization	Lead Official
	Completion of remaining MACT standards	02/29/04	Office of Air and Radiation	Jerry Kurtzweg

3.	Recommendation	Completion Date	On Track? (Y/N)	Comments on Status
	Establish better performance measures (including an appropriate efficiency measure).	Ongoing	Y	Proposed efficiency measure submitted to OMB in PART update. For further information consult the Efficiency Measures / Measure Development Plan subsection within the Goal 1 Objective 1 section. For further information consult the Efficiency Measures / Measure Development Plan subsection within the Goal 1 Objective 1 section.
	Next Milestone	Next Milestone Date	Lead Organization	Lead Official
	Potential efficiency measures identified; further analysis needed to develop measure.	07/01/04	Office of Air and Radiation	Jerry Kurtzweg

NONPOINT SOURCE PROGRAM

1.	Recommendation Develop an outcome-based efficiency measure that demonstrates the marginal benefit to the environment per dollars expended for the program.	Completion Date 09/04/04	On Track? (Y/N) Y	Comments on Status OMB approved revised long-term performance measures but rejected efficiency measure in 05 PART reassessment. Program will work with OMB to develop efficiency measure. For further information consult the Efficiency Measures / Measure Development Plan subsection within the Goal 2 Objective 2 section.
	Next Milestone Continue to work with state partners to improve efficiency measure and develop actions based on OMB's 05 recommendations	Next Milestone Date 06/30/04	Lead Organization Office of Water	Lead Official Mike Mason

SUPERFUND/CERCLA REMOVAL/EMERGENCY RESPONSE

1.	Recommendation Establish better "Outcome" performance measures	Completion Date TBD	On Track? (Y/N) Y	Comments on Status OSWER currently has a contractor tasked with reviewing historical Removal Action data to determine what types of measures of effectiveness of removals (such as lives saved or protected, environment protected, etc.) might be workable, especially to show improvement from one year to the next. For further information consult the Efficiency Measures / Measure Development Plan subsection within the Goal 3 Objective 2 section.
	Next Milestone Effectiveness measure developed for testing	Next Milestone Date 03/01/04	Lead Organization Office of Solid Waste and Emergency Response	Lead Official Dana Stalcup
2.	Recommendation Establish efficiency measures.	Completion Date TBD	On Track? (Y/N) Y	Comments on Status We have begun looking at ways to categorize different types of removals, based on things such as size and complexity, to allow for possible efficiency analyses. For further information consult the Efficiency Measures / Measure Development Plan subsection within the Goal 3 Objective 2 section
	Next Milestone Draft efficiency measure developed	Next Milestone Date 10/01/04	Lead Organization Office of Solid Waste and Emergency Response	Lead Official Dana Stalcup
3.	Recommendation	Completion Date	On Track? (Y/N)	Comments on Status

Increase Efforts in Program Evaluation	TBD	Y	While the Superfund removal program does not have a planned regular, independent program evaluation process, we have conducted program reviews of recent responses (such as the World Trade Center and the Anthrax responses). In addition, OSWER has recently implemented an office-wide Program Evaluation Team and Network to foster increased program evaluation efforts across all OSWER programs, including the Superfund removal program. Priorities for evaluation will be based on the potential risks/ vulnerabilities posed by a program or component thereof and the potential improvement in operation and efficiency that could be gained from that evaluation.
Next Milestone	Next Milestone Date	Lead Organization	Lead Official
All relevant program offices participate in ongoing Program Evaluation Network meetings and provide input to the evaluation planning process.	03/30/04	Office of Solid Waste and Emergency Response	Bruce Pumphrey

4.

Recommendation	Completion Date	On Track? (Y/N)	Comments on Status
Improve Strategic Planning	TBD	Y	While the Superfund Removal program, by its emergency and response orientation, does not have a regular strategic planning process in place, we have taken significant programmatic action as a result of lessons learned from the World Trade Center and Anthrax responses. The National Approach to Response (NAR) was developed to deal with many of the issues identified during those responses. A national work plan to implement the NAR has been

		issued which provides strategic direction for the removal program over the next several years.	
Next Milestone	Next Milestone Date	Lead Organization	Lead Official
Complete WTC/Anthrax Lesson Learned Implement National Approach to Response, and assess its effectiveness	Completed 03/30/04 and 10/31/04	Office of Solid Waste and Emergency Response	Dana Stalcup

5.	Recommendation	Completion Date	On Track? (Y/N)	Comments on Status
	Improve Collection of Program Performance Data	TBD	Y	We are currently collecting program performance data via the Core ER, and will continue to improve the data collection and performance analysis process over the next year. We have taken significant programmatic action as a result of lessons learned from the World Trade Center and Anthrax responses. The National Approach to Response (NAR) was developed to deal with many of the issues identified during those responses. A national work plan to implement the NAR has been issued which provides strategic direction for the removal program over the next several years.
	Next Milestone	Next Milestone Date	Lead Organization	Lead Official

Complete WTC/Anthrax Lesson Learned Implement National Approach to Response, and assess its effectiveness	Completed 02/29/04	Office of Solid Waste and Emergency Response	Dana Stalcup
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DRINKING WATER STATE REVOLVING FUND

1.	Recommendation	Completion Date	On Track? (Y/N)	Comments on Status
	Develop an outcome efficiency measure that demonstrates the marginal benefit to public health per dollars expended for the program.	9/30/04	Y	OMB reassessment in FY 05 approved revised performance measures but rejected proposed efficiency measures. The DW SRF program will work with its state partners in developing efficiency measures. For further information consult the Efficiency Measures / Measure Development Plan subsection within the Goal 2 Objective 1 section.
	Next Milestone	Next Milestone Date	Lead Organization	Lead Official
	Continue to develop efficiency measures	06/01/04	Office of Water	Mike Mason

PESTICIDE REGISTRATION

1.	Recommendation Improve long-term performance measures: develop baselines and targets; improve outcome focus	Completion Date ongoing	On Track? (Y/N) Y	Comments on Status Revisions to long-term measures made in new strategic plan; additional measures under analysis.
	Next Milestone Proceed with analysis of potential measures: analysis funded; next step: complete analysis	Next Milestone Date 09/30/04	Lead Organization Office of Prevention, Pesticides, and Toxic Substances	Lead Official Carol Terris
2.	Recommendation Improve long-term performance measures: develop baselines and targets; improve outcome focus	Completion Date 09/30/04	On Track? (Y/N) Y	Comments on Status Revisions to long-term measures made in new strategic plan; additional measures under analysis.
	Next Milestone One potential outcome measure/data set identified. Next step: integrate into program operation.	Next Milestone Date 09/30/04	Lead Organization Office of Prevention, Pesticides, and Toxic Substances	Lead Official Carol Terris

PESTICIDE REREGISTRATION

1.	Recommendation Improve long-term performance measures: develop baselines and targets; improve outcome focus.	Completion Date Ongoing	On Track? (Y/N) Y	Comments on Status Revisions to long-term measures made in new strategic plan; additional measures under analysis.
	Next Milestone Proceed with analysis of potential measures: analysis funded; next step: complete analysis	Next Milestone Date 9/30/04	Lead Organization Office of Prevention, Pesticides, and Toxic Substances	Lead Official Carol Terris

NEW CHEMICALS

1.	Recommendation	Completion Date	On Track? (Y/N)	Comments on Status
	Establish more outcome-oriented measures including at least one efficiency measure.	9/30/04	Y	Improved outcome and efficiency measure in place but more work is underway to develop/refine annualized targets. OCFO/OPEI funded project to improve efficiency and outcome measures for New Chemicals program this year. For further information consult the Efficiency Measures / Measure Development Plan subsection within the Goal 4 Objective 1 section.
	Next Milestone	Next Milestone Date	Lead Organization	Lead Official
	Annualized targets developed.	06/30/04	Office of Prevention, Pesticides, and Toxic Substances	Carol Terris

2.	Recommendation	Completion Date	On Track? (Y/N)	Comments on Status
	Improvement of the program's strategic planning, including an independent evaluation of the program, which can result in significant improvement of program results.	09/30/04	Y	FDA independent assessment submitted
	Next Milestone	Next Milestone Date	Lead Organization	Lead Official
	Canadian peer review of PMN process and tools initiated in '03	09/30/04	Office of Prevention, Pesticides, and Toxic Substances	Carol Terris

EXISTING CHEMICALS

1.	Recommendation Establish better performance measures	Completion Date 09/30/04	On Track? (Y/N) Y	Comments on Status RSEI analyses were shared with OMB as part of the EPA Appeal to the FY 2005 PART results. A new long-term, ambitious target was established for the RSEI goal and annual targets reflect incremental progress towards the longer-term goal.
	Next Milestone Monitor against revised targets	Next Milestone Date Ongoing	Lead Organization Office of Prevention, Pesticides, and Toxic Substances	Lead Official Carol Terris
2.	Recommendation Establish efficiency measures.	Completion Date 09/30/04	On Track? (Y/N) Y	Comments on Status Potential efficiency measures have been developed but additional program and trends analysis required.
	Next Milestone Three potential efficiency measures identified, further analysis needed to verify or develop baselines/metrics	Next Milestone Date 09/30/04	Lead Organization Office of Prevention, Pesticides, and Toxic Substances	Lead Official Carol Terris

AMERICAN INDIAN ENVIRONMENTAL GENERAL ASSISTANCE PROGRAM

1	Recommendation Encourage EPA to develop ambitious performance targets for its annual and efficiency measures.	Completion Date 09/30/04	On Track? (Y/N) Y	Comments on Status OMB approved revised performance measures in 05 PART reassessment. Program rating moved from “results not demonstrated” to “adequate.” For further information consult the Efficiency Measures / Measure Development Plan subsection within the Goal 5 Objective 3 section.
	Next Milestone Work with tribal partners to develop more accurate targets.	Next Milestone Date 09/30/04	Lead Organization Office of Water/American Indian Environmental Office	Lead Official Mike Mason

CIVIL ENFORCEMENT

1	Recommendation	Completion Date	On Track? (Y/N)	Comments on Status
	Fund \$5 million in the FY 2004 budget for an improved compliance data system.	9/31/03	Y	Five million dollars for modernization of the Clean Water Act (CWA) data system was included in the President's FY 2004 Budget. This is the second phase of the compliance data system modernization effort known as ICIS (Integrated Compliance Information System). Continued delay in passage of EPA's FY 2004 appropriations bill may delay efforts to modernize the CWA data system.
	Next Milestone	Next Milestone Date	Lead Organization	Lead Official
	Final funding level will be determined during the agency's FY 2004 operating plan development process.	04/01/04	Office of Enforcement and Compliance Assurance	Michael Stahl