

United States
Environmental Protection
Agency

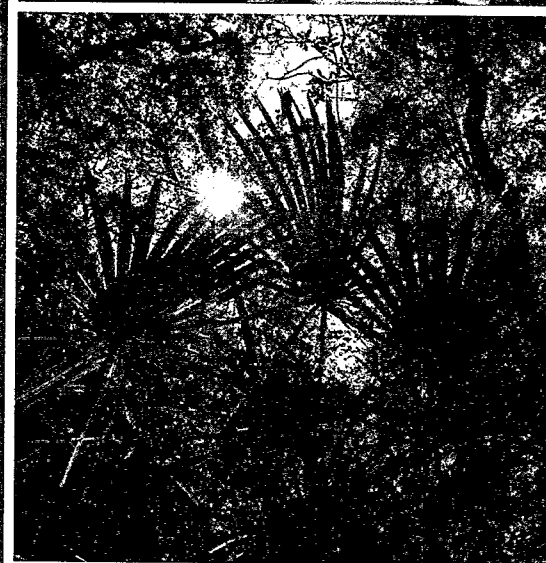
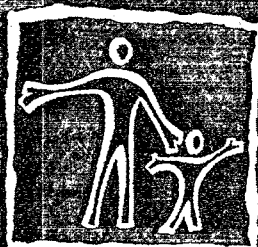
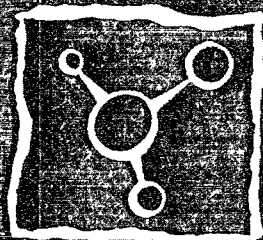
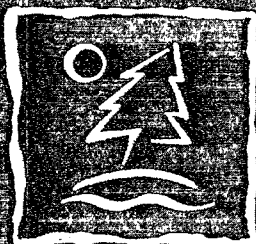
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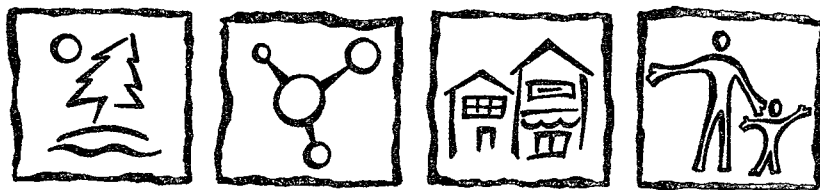
Office of Pollution Prevention and Toxics

Fiscal Year 1997 Annual Report

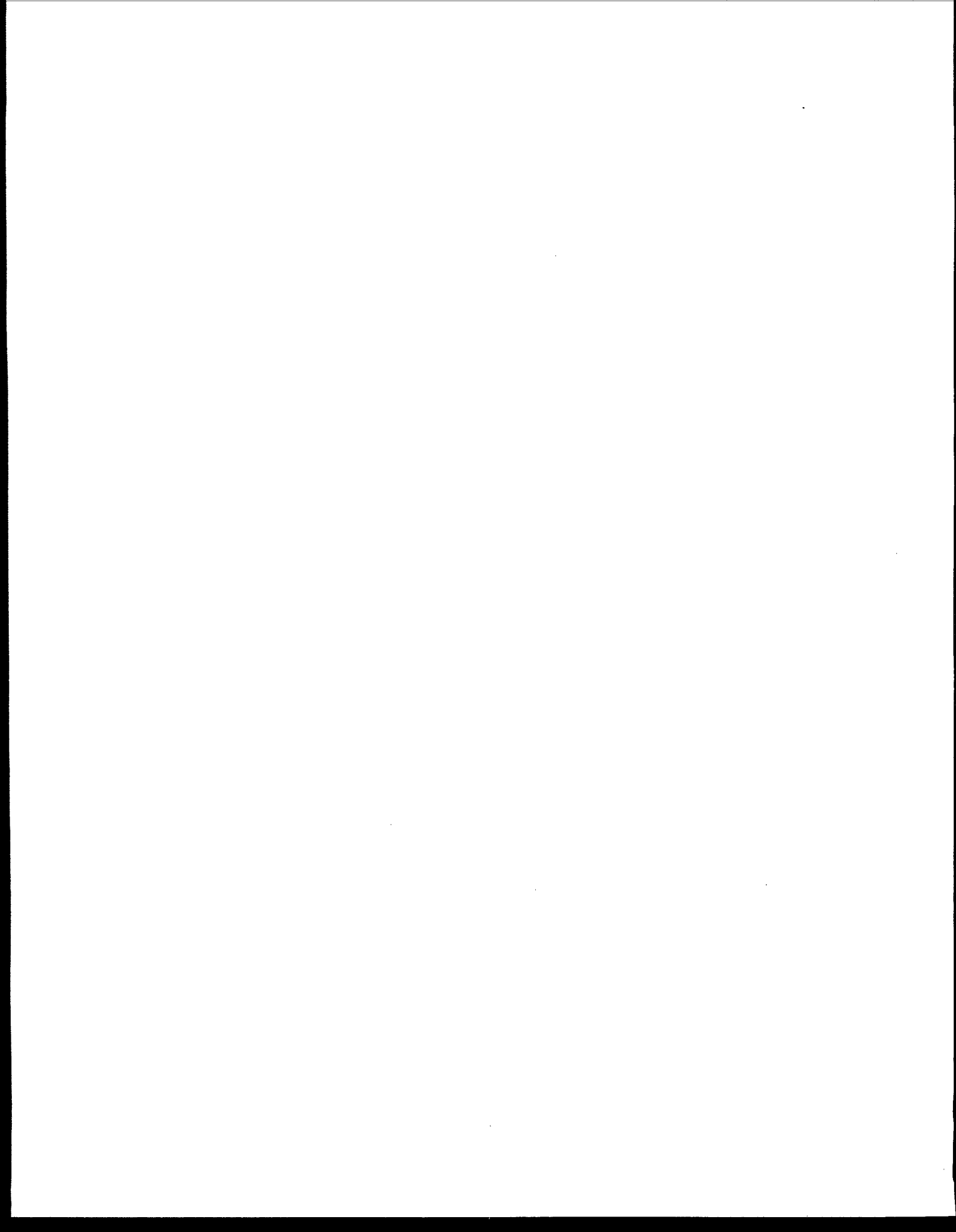


OPPT Annual Report

Fiscal Year 1997



OFFICE OF POLLUTION PREVENTION AND TOXICS
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



Foreword

EPA's Office of Pollution Prevention and Toxics (OPPT) occupies a strategic position among the Agency's offices. From this position — where past and present meet — OPPT is applying innovative thinking to implement some of EPA's oldest statutory authorities and programs while creating a synergy that will propel us toward the next generation of environmental protection. This past year has been critical to our strategic direction with new projects, new achievements, and new initiatives that I am proud to present in this Fiscal Year 1997 Annual Report.

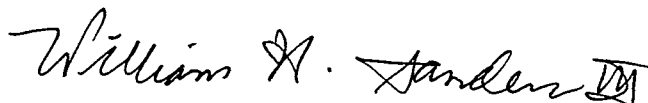
Early in the year, OPPT finalized its reorganization/reinvention plan and, in spite of the tremendous energy that goes into such an effort, the Office still achieved significant programmatic goals and did it with good spirit. We have been working very hard to improve our efficiency in performance, often out of the necessities imposed by a declining resource base. We have invested in advanced technologies to speed our processes and demonstrated innovation in maintaining or increasing the pace of outputs for less cost.

Perhaps the most significant effort for the long term has been the development of a strategic plan for OPPT. This plan, aligned with the results-based goals and objectives mandated by the Government Performance and Results Act, will give us an excellent start toward achieving the critical commitments we are making to the American people.

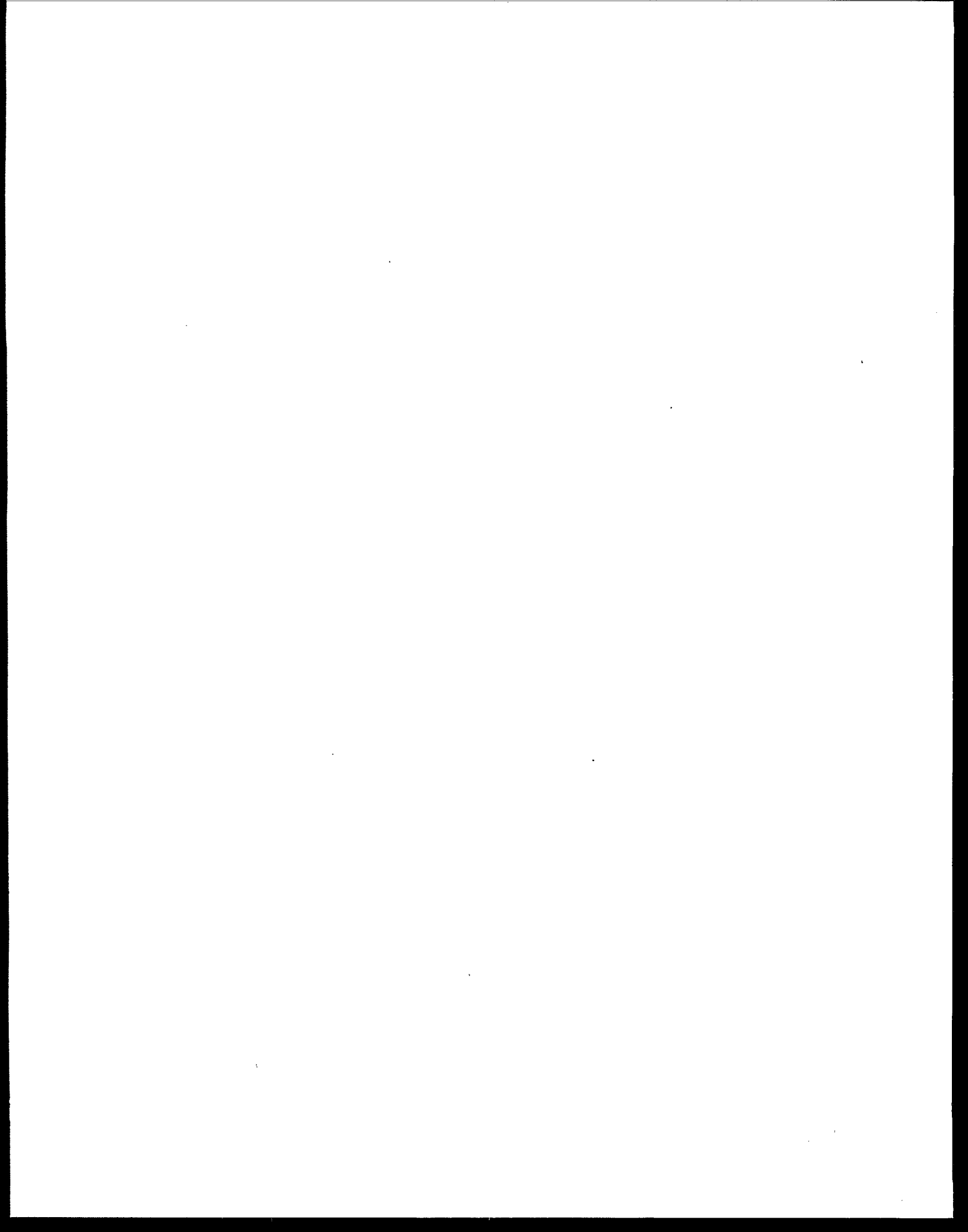
Many of OPPT's accomplishments owe a great deal to vital, ongoing collaboration with our counterparts in EPA's ten regional offices and our partners in the states, industry, and public interest groups. These people carry out much of the "front line" environmental protection work every day—showing that preventing pollution pays off, that investing in reduced childhood lead poisoning saves millions of dollars in lower health care and education costs, that safe clean-up of PCB-contaminated sites is demanded at the local level, and that our community right-to-know advancements represent just the tip of the iceberg in empowering people with information.

OPPT's programs are multimedia in focus. Some of their effects are direct and immediately apparent, some are integral to other programs and processes; others remain behind the scenes for years at a time. This report illustrates that broad range of programs and impacts. In our lead program, we are establishing the infrastructure designed to bring about environmental improvements that will protect future generations of children. Our programs for safe chemicals and microorganisms integrate many innovative concepts and applications. Our traditional functions of chemical testing, risk assessment, and regulatory gatekeeping are being imbued with cutting-edge principles such as pollution prevention, right-to-know, and green design, for which OPPT is recognized as a national and international leader.

This report to our colleagues, stakeholders, and the public provides an update on our recent activities and helps inform the ongoing dialogue as we refine our approaches to meeting the complex environmental challenges facing our nation.



William H. Sanders, III, Dr. P.H., P.E.
Director, Office of Pollution Prevention and Toxics



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▼ EXECUTIVE SUMMARY

The Year in Review

The Environmental Protection Agency's Office of Pollution Prevention and Toxics (OPPT) is pleased to present this review of our activities in fiscal year 1997. Employing a combination of regulatory and partnership efforts, and working closely with our stakeholders, much progress has been made this year on better understanding and preventing the risks from toxic chemicals that enter our environment. The goal of this report is to share what we have learned with the public and to invite active participation in our ongoing and planned programs.

Today's environmental challenges call for flexible, cooperative approaches that tap the creativity and enthusiasm of business people, engineers, chemists, the public, regulators in federal, state, and local governments, and even international governments. Acting within the legislative authorities and boundaries set by Congress, OPPT has developed a wide range of tools to accomplish its goals, including the traditional issuing of rules and regulations as well as nonregulatory approaches such as partnerships, voluntary agreements, and information dissemination.

This past year marked the 20th anniversary of the Toxic Substances Control Act, or TSCA. In 1976, passage of this law offered a promising mechanism to help us better understand chemical risks, and to address these risks in a comprehensive, multi-media framework. The purpose of TSCA is to ensure that the tens of thousands of chemicals routinely used in commerce are used safely — that they are safe for our children,

for our workers, for the general public and for the environment. What a tremendous vision, and what a daunting task! Together, we have made considerable progress in the last twenty years, but there are many more challenges ahead. As each new fiscal year approaches, we search for ways to accomplish our goals more rapidly, more efficiently, and in a way that best meets the needs of the public.

While we still do not have comprehensive information about the risks of all chemicals that are present in our environment, in many ways TSCA has exceeded the promising expectations which heralded its arrival. Representatives from other countries routinely visit EPA to learn about TSCA and how we implement the law. As environmental awareness and sophistication increases among the general public, and both industry and government become committed to work in partnership to reduce risks, innovative approaches to applying TSCA have become increasingly possible.

Legislative Authorities

- Toxic Substances Control Act (TSCA)
- Section 104(l) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Sections 313 and 322 of the Emergency Planning and Community Right-to-Know Act (EPCRA)
- Pollution Prevention Act
- Residential Lead-Based Paint Hazard Reduction Act
- Asbestos School Hazard Abatement Act
- Asbestos Hazard Emergency Response Act



Four Mission Areas

OPPT's mission statement focuses on the value-added contributions that OPPT staff and its legislative authorities can make to improve environmental quality. Each of the four components of OPPT's mission is discussed briefly below, and amplified in the descriptions of OPPT's FY 1997 activities in the four chapters of this Annual Report.

PROMOTE POLLUTION PREVENTION: The Pollution Prevention Act of 1990 made pollution prevention national policy. This change in approach from end-of-pipe control to prevention has focused both regulatory and nonregulatory efforts on reducing waste at the source. What is not created doesn't need to be managed, destroyed, or disposed. Source reduction includes practices that conserve natural resources by reducing or eliminating pollutants through increased efficiency in the use of raw materials, energy, water, and land. OPPT promotes pollution prevention through voluntary pollution reduction programs, engaging in partnerships,

providing technical assistance, funding demonstration projects, and incorporating cost-effective pollution prevention alternatives into regulations and other initiatives.

PROMOTE SAFER CHEMICALS: OPPT actively promotes the use of safer chemicals and processes in all the basic operations of the industrial sector. Through a combination of regulatory and voluntary efforts, OPPT is requiring, motivating, and assisting industry to test chemicals in advance of introducing them into the marketplace, design them at the molecular level to be less toxic to humans and the environment, and reengineer chemical processes to make them safer and less wasteful.

PROMOTE RISK REDUCTION: While preventing pollution is central to the work of OPPT, large amounts of toxic chemicals are already present in the environment from past activities. OPPT has developed aggressive programs to minimize exposure to such highly toxic substances as lead, asbestos, dioxin, and polychlorinated biphenyls.

The Mission of OPPT



Promote pollution prevention as a principle of first choice to encourage society to care for and think about the environment in a more protective manner, preventing harm before it occurs.



Promote the design, development, and application of safer chemicals, processes, and technologies in the industrial sector of the economy.



Promote the reduction of risks in our homes and communities to adults and children, particularly risks due to exposure, and encourage responsible risk management practices throughout the life cycle of major chemicals of concern.



Promote public understanding of risks of chemicals and public involvement in environmental decision-making through the development and dissemination of information on toxic chemicals.

PROMOTE PUBLIC UNDERSTANDING OF RISKS: Individual members of the public must take responsibility for the integrity of the environment around them. To do that, the public must have access to information and data. OPPT is committed to providing understandable, accessible, and complete information on chemical risks to the broadest audience possible. OPPT believes that an informed public is better able to make responsible decisions about protecting itself and the environment.

Guiding Principles of OPPT

As OPPT carries out each interrelated component of this mission, several principles guide our activities. These include: 1) developing voluntary partnerships; 2) working cooperatively with customers and interested parties to further environmental protection; 3) protecting children and other vulnerable populations from environmental risks; 4) targeting solutions to specific situations instead of trying to come up with a "one-size-fits-all" answer; and 5) reinventing government through regulatory flexibility and innovation.

VOLUNTARY PARTNERSHIPS: While the command and control techniques of environmental regulation have served this country well in reducing some of the most severe environmental threats, today's environmental challenges and societal conditions also invite the use of a broad range of cooperative and voluntary approaches. OPPT and other EPA offices now engage in many voluntary activities with state and local governments, the business and environmental communities, and academia to prevent pollution and achieve environmental improvement.

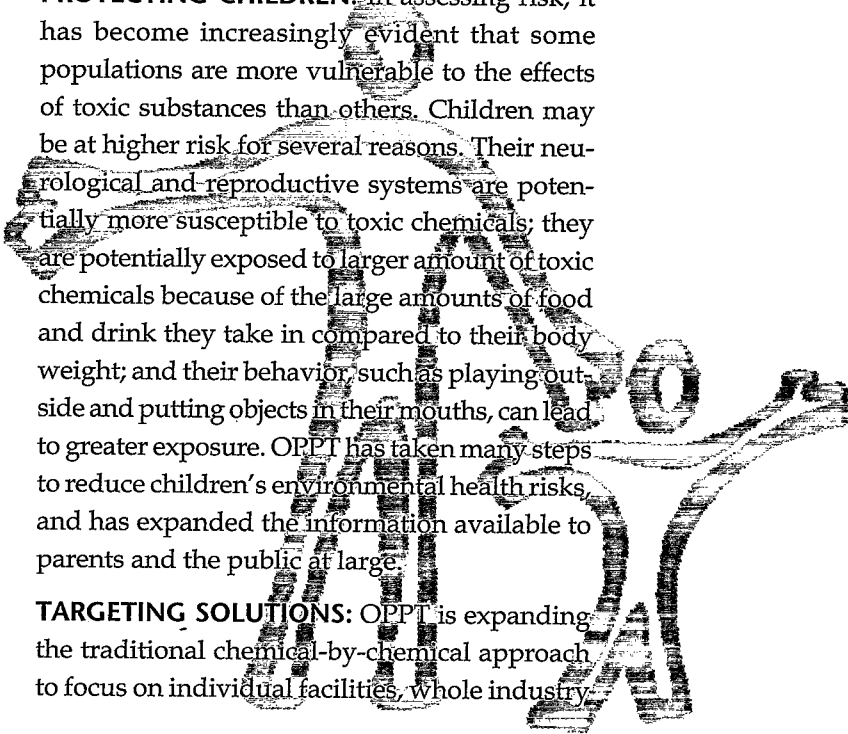
WORKING COOPERATIVELY: In this spirit of increased cooperation, OPPT has intensified efforts to communicate with our customers. While

the primary focus of OPPT was previously on chemical manufacturers, it is clear today that our customers also include environmental and labor groups, industries that process and use toxic chemicals, environmental justice organizations, other federal, state, and local governments, consumer advocacy groups, and the public at large. All these parties have a stake in the issues OPPT works on, and their input can improve the decisions EPA makes.

OPPT is continuing efforts to promote environmentally preferable choices in the design, manufacture, and stewardship of chemicals. The Office is engaging in dialogue with environmental and labor groups to ensure that their needs are understood and addressed. OPPT is also working with other government agencies to ensure that the federal government coordinates its programs, and that states, tribes, and local communities have the information they need to make informed choices.

PROTECTING CHILDREN: In assessing risk, it has become increasingly evident that some populations are more vulnerable to the effects of toxic substances than others. Children may be at higher risk for several reasons. Their neurological and reproductive systems are potentially more susceptible to toxic chemicals; they are potentially exposed to larger amount of toxic chemicals because of the large amounts of food and drink they take in compared to their body weight; and their behavior, such as playing outside and putting objects in their mouths, can lead to greater exposure. OPPT has taken many steps to reduce children's environmental health risks, and has expanded the information available to parents and the public at large.

TARGETING SOLUTIONS: OPPT is expanding the traditional chemical-by-chemical approach to focus on individual facilities, whole industry,





sectors, or the environmental problems faced by an entire community, as appropriate. Though a chemical approach has value in many situations, focusing on facilities, industries, and communities allows us to tailor environmental solutions to a given setting and each unique circumstance.

REINVENTING GOVERNMENT: Reinventing the way we approach environmental protection has been a high priority in OPPT. As we approach the 21st century, we must find new ways to assure a safe environment for all. OPPT's focus on empowerment through expanded access to information, on developing and meeting customer service standards, and on community-based environmental protection and environmental justice reflect Vice President Gore's principles of reinventing government. OPPT is also working with other Agency-wide reinvention initiatives. OPPT staff have helped EPA's Office of Policy, Planning, and Evaluation in directing Project XL. Under Project XL, companies and regulated entities that demonstrate they can achieve superior environmental results than are possible under current regulatory constraints are offered regulatory flexibility. Similarly, OPPT has been highly involved in the Design for the Environment program and the Common Sense Initiative launched by Administrator Carol Browner in order to identify "cleaner, cheaper and smarter" approaches to environmental protection in partnership with industry, the environmental community, and others.

Internal Management Developments in FY 1997

FY 1997 saw a streamlining of OPPT's internal management processes, with completion of a reorganization and the first steps in a multi-year strategic planning effort, described more fully below. Other important management changes

include increased implementation of OPPT's vision of the "paperless office" — a fully networked office that uses electronic transmission of data and documents to enhance its efficiency. In addition, OPPT made new strides in setting and meeting customer service standards to ensure that our customers, broadly defined, are responded to promptly, intelligently, and reasonably on a consistent basis. OPPT is constantly searching for better ways to enable people to work together, whether they are employees, internal or external customers, business partners or stakeholders. OPPT's achievements are made possible by the combined efforts of approximately 450 staff members at EPA Headquarters in Washington, DC and nearly 100 staff in the ten EPA Regional Offices.

REORGANIZATION: OPPT completed a major internal reorganization in 1997, designed to increase the efficiency and effectiveness of OPPT's core processes. The reorganization served to "flatten" the organization by reducing the number of management layers between staff and senior decision-makers. The new structure meets the National Performance Review directive of an 11 to 1 staff to management ratio. The reorganization also shifted OPPT in the direction of a "whole program" model by reorganizing according to core program areas while maintaining, for the most part, existing functional Divisions. OPPT staff and employee unions were closely involved in the reorganization process.

COORDINATION WITH THE REGIONS: Now that both OPPT Headquarters and EPA's Regional Office reorganizations are complete, OPPT has stepped up efforts to communicate and coordinate with the EPA Regions. The Regional Offices manage our grants to states and other entities, provide outreach and technical assistance to the regulated community, encour-



age state and local government and citizens to use publicly-available data collected by OPPT, help state and local groups build pollution prevention programs, operate PCB disposal permit programs, participate in many multi-media and community-based projects, and perform nearly all enforcement and compliance assistance activities for OPPT programs. Effective two-way communication has stood the Office in good stead for many years now. OPPT will continue efforts to ensure that the Office and the Regions are sharply focused on priority toxics concerns.

STRATEGIC PLANNING: OPPT has been actively involved in internal long-range strategic planning for a period of time. This effort, however, has been formalized and expanded as a result of the Agency-wide effort to implement the Government Performance and Results Act (GPRA) of 1993. GPRA requires federal agencies to develop long-range strategic plans by September 1997, and to prepare annual performance plans, beginning with fiscal year 1999, that will implement the broader strategic plan. By March 2000, GPRA requires agencies to present annual program performance reports to indicate their success in meeting the goals set out in their strategic plans.

President Clinton has observed that GPRA requires the federal government to "...chart a course for every endeavor...see how well we are progressing, tell the public how we are doing, stop the things that don't work, and never stop improving..." GPRA forces a change in focus from programmatic inputs to the achievement of results. Over time it is anticipated that the federal government will conduct most of its long-range planning, resource allocation, and programmatic operations and assessment within the context of GPRA concepts and requirements.

In 1997 OPPT drafted a strategic plan to guide the Office's operations through 2005. The five major program objectives of OPPT's plan

are presented below. This plan has been incorporated into the Agency-wide strategic plan (available on the Internet at www.epa.gov). OPPT will continue to articulate a more detailed and comprehensive expression of its long-range plans to meet internal planning needs. In 1998 OPPT will share its strategic plan with a wide array of stakeholders to help refine OPPT's objectives, strategies, and performance measures. After a two to three month comment period, the plan will be finalized in Summer 1998. (*For more*

OPPT'S STRATEGIC PROGRAM OBJECTIVES

- By 2005, lead poisoning will be significantly reduced from levels in the early 1990s, with particular emphasis on children in high-risk groups.
- By 2005, of the approximately 3,000 high-volume chemicals in commerce and the 2,000 chemicals and 40 genetically engineered microorganisms expected to enter commerce each year, EPA will significantly increase the introduction and use by industry of safer or "greener" chemicals such that fewer than 100 cases per year will need regulatory management by EPA.
- By 2005, reduce by 25% (from 1992 level) the quantity of toxic pollutants released, disposed of, treated, or combusted for energy recovery. Half of this reduction will be achieved through pollution prevention practices.
- By 2005, sign international agreements for import-related Prior Informed Consent and for both Long-Range Transboundary Air Pollution (LRTAP) and United Nations Environmental Program (UNEP) Persistent Organic Pollutants. Harmonization of 100 international test guidelines will be completed by the U.S.A. as a member of the OECD. On Pollutant Release and Transfer Registers, the U.S.A. will make progress on harmonization with Canada and Mexico and will take steps to encourage public right-to-know about toxic chemicals and transfers in other countries.
- By 2005, EPA will improve the ability of the public to reduce exposure to specific environmental and public health risks by making current, accurate substance-specific information widely and easily accessible.



information, contact the Planning and Assessment Branch, 202-260-6394.)

Also in 1997, OPPT prepared an annual performance plan to become effective in FY 1999. The performance plan includes specific annual performance goals contributing to the realization of the longer-term strategic goals. The performance plan also identifies performance indicators that we will use to measure results and the resources required to support these activities. Since the performance plan incorporates our budgetary needs, the Congress must review and ultimately approve the performance plan. In each succeeding year OPPT will produce a new annual performance plan and update the strategic plan.

Highlights of OPPT's Initiatives & Achievements in FY 1997

With over 100 programs and projects underway in OPPT at any given time, it is almost impossible to select a handful of efforts as being the most significant. Many projects take time to develop and build the involvement of stakeholders; the development work, although slow and often invisible to the public, may turn out to be of great significance several years down the road.

Fortunately, keeping track of OPPT's activities is becoming easier all the time, thanks to the capacities of the Internet. OPPT staff have been working hard to make up-to-date program information available to the public through various Web sites on the Internet, all accessible via EPA's home page (www.epa.gov). As an example, it is now possible for Internet users to find out about pollution in their neighborhood just by entering their zip code on the Web site.

The following pages highlight a number of the more significant activities in OPPT in FY 1997.

NEW INITIATIVES AND MILESTONES

- *New Chemicals Pollution Prevention Recognition Award:* The first round of awards from this program recognized five new chemical substances developed with pollution prevention in mind.
- *Human Health Indoors Policy Initiative:* OPPT and EPA's Office of Air and Radiation have embarked on this new program to focus attention on indoor environments.
- *TRI Successes:* FY 1997 saw the first reports for the expanded list of TRI chemicals (over 600 chemicals listed); an increase of 25% in the number of facilities required to submit reports in the future (now over 31,000); and more than 1,500 community groups using TRI data in their dealings with local government and industry.
- *Persistent, Bioaccumulative Toxics:* The new focus on PBT chemicals is a mark of the maturation of EPA's understanding of chemicals and their ecological effects. PBTs will be added to OPPT's public information collection strategies.
- *Lead Poisoning Prevention/Awareness Grants:* A new initiative in FY 1997 will increase awareness of the hazards of lead-based paint and the need for lead poisoning prevention among high-risk target audiences, with a primary focus on children at risk. Some \$450,000 will be awarded in FY 1998.
- *Consumer Labeling Initiative:* FY 1997 saw the first label improvements announced under the Consumer Labeling Initiative program, for pesticide product labels.
- *Pollution Prevention Assessment Framework:* In FY 1997, OPPT and EPA Region 9 developed this compendium of risk assessment methods for chemicals that have little or no hazard data or exposure data.
- *33/50 Program:* The 33/50 Program marked its conclusion in 1997, exceeding its goal of a

50% toxic chemical reduction set back in 1991. Total quantities reported to TRI of the 17 priority chemicals covered by the 33/50 Program declined 56%, from 1.5 billion pounds in 1988, the baseline year, to 664 million in 1995.

- *Endocrine Disruptors*: The Endocrine Disruptor Screening and Testing Advisory Committee was established by EPA in October 1996 to advise EPA on a strategy for screening and testing chemicals, pesticides, and drinking water contaminants for their potential to disrupt the endocrine system.

THE NUMBERS

- *Pollution Prevention Incentives for States*: 58 grants awarded, totaling \$5 million.
- *Environmental Justice through Pollution Prevention*: 49 grants awarded, totaling \$4 million.
- *P2 Information Centers*: Over \$1 million in grants awarded to nine P2 Information Centers.
- *Premanufacture Notification (PMN)*: EPA received 1,483 PMN submissions from industry for new chemicals in FY 1997, compared to 1,892 in FY 1996.
- *PMN Low Volume Exemption*: 471 applications were exempted from notification requirements because of low production volumes in FY 1997, compared to 413 in FY 1996.
- *Polymer PMN Exemption*: In the second year of this exemption, 78 manufacturers reported using this exemption for 210 polymers. As a result, industry realized cost savings of \$5.25 million; EPA saved \$231,000 in processing and review costs. During FY 1997 EPA also reviewed 232 polymers that could have qualified for the polymer exemption if the manufacturers had requested it, which would have generated even greater saving for industry and EPA.
- *Harmonization of Environmental Guidelines*: Eleven health test guidelines were codified as final TSCA test guidelines.

- *Design for the Environment, Community College Partnership*: In FY 1997, six regional workshops reached more than 600 community college instructors, while 18 training sessions brought out more than 150 automotive repair instructors.
- *National Advisory Committee for Acute Exposure Guideline Levels for Hazardous Substances (NAC/AEGL Committee)*: In FY 1997, the Committee developed 176 proposed AEGLs for 17 hazardous substances.
- *National Lead Laboratory Accreditation Program*: Another 26 laboratories were recognized in FY 1997, increasing the total number of accredited lead testing laboratories to 126.
- *Pesticide Inerts*: 1,100 chemicals used as inerts in pesticide formulations were evaluated by OPPT's Structure Activity Team in FY 1997.
- *Four Corners International Sharing Agreement*: Since the agreement took effect on April 15, 1996, EPA has received 30 requests from 14 U.S.-based companies.
- *Screening Information Data Set (SIDS)*: The United States initiated work on 29 chemicals under phase 6 of the SIDS program. OPPT peer-reviewed 10 U.S.-sponsored and 15 non-U.S.-sponsored Initial Assessment Reports and reached closure in OECD on six cases.
- *TSCA Section 4 Testing*: During FY 1997, 35 TSCA Section 4 studies on 11 chemicals were received by EPA and included in the electronic database.
- *TSCA Section 8(e) Information Submissions*: OPPT completed initial screening of 300 submissions.
- *Voluntary product stewardship agreements*: Three agreements were finalized in FY 1997 involving MEKO and toluidine and dianisidine-based dyes.

RULES AND REGULATIONS

- *Acrylates*: OPPT withdrew the generic acrylate significant new use rule (SNUR), revoked



SNURs for 96 acrylate substances, and revoked Section 5(e) Consent Orders for 121 acrylate substances.

- *Significant New Use Rule on Benzidine-Based Dyes*: Requires persons to notify EPA at least 90 days before commencing the manufacture, import, or processing of dyes containing two benzidine congeners: o-toluidine and o-dianisidine. Published October 7, 1996 (40 CFR Parts 9 and 721), effective November 20, 1996.
- *Significant New Use Rules (SNURs)*: 45 new chemical SNURs were issued; 4 new chemical SNURs were revoked.
- *TSCA Section 4 Enforceable Consent Agreements*: Comprehensive health effects testing of phenol (January 14, 1997; 62 FR 2607). Genotoxicity and developmental/reproductive toxicity testing of Hexamethylene Diisocyanate (September 30, 1997; 62 FR 51107).
- A *Notice of Availability* of the 1996 version of the Master Testing List was published on December 13, 1996 (61 FR 65936).
- *Final Biotechnology Rule* for microbial products of biotechnology subject to TSCA: Published April 11, 1997 (62 FR 17910-17958); effective June 10, 1997.
- *Final Rule on TRI Industry Expansion*. Requires seven additional industries to begin TRI reporting (metal mining, coal mining, coal and oil-fired electric generating facilities, commercial hazardous waste treatment and disposal facilities, chemical and petroleum wholesale distribution facilities, and solvent recovery facilities). Published May 1, 1997 (62 FR 23834), effective January 1, 1998.
- *Chemical Use Expansion of TRI*: Advanced Notice of Proposed Rulemaking (ANPR) published on October 1, 1996. Over 40,000 com-

ments were received and reviewed.

- *Proposed Rule* to add dioxin and dioxin-like chemicals (PCBs, polychlorinated dibenzofurans) to TRI. Published May 7, 1997, 62 FR 24887.

KEY COURT DECISIONS

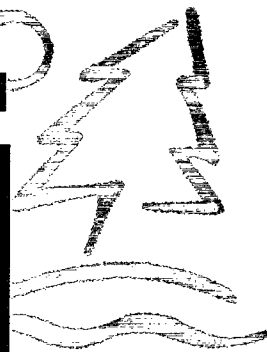
- EPA successfully defended in court the doubling of the number of chemicals for which TRI reporting is required. On August 1, 1997, the U.S. Court of Appeals affirmed the judgment of the District Court which had upheld EPA's decision to add 286 new chemicals to the TRI list. The Court of Appeals remanded EPA's decision on only two of the 286 chemicals.
- EPA's rule of March 18, 1996, which harmonized the transboundary requirements for PCBs with all other hazardous wastes and allowed for the import and disposal of PCBs in the United States, was overturned by the U.S. Ninth Circuit Court of Appeals on July 7, 1997, in *Sierra Club v. EPA*, 118 F. 3d 1324 (9th Cir. 1997). The court found that EPA has authority to allow PCB imports, including imports for disposal, only by granting exemption petitions.

Looking Ahead

A great deal of activity that has been long in development will be coming to fruition over the next year, and another crop of exciting new projects will just be starting up.

We look forward to building further on the themes sounded in this report, bringing the combined strength of our communities and public participation into the environmental arena, and empowering people to use innovative solutions to protect our health and the environment.

▼ I. PROMOTING POLLUTION PREVENTION



The Pollution Prevention Act of 1990 declared pollution prevention to be the national policy of the United States. Pollution prevention, also referred to as source reduction, aims both to conserve finite natural resources and to prevent waste and harmful substances from contaminating the environment. OPPT manages many programs that directly benefit companies and communities in applying pollution prevention solutions to improve the environment. With the proper information and cost accounting in place, pollution prevention often sells itself to corporate decision makers, saving companies money and resources. OPPT is committed to working through its many partnership programs and through traditional regulatory activities to build an understanding with industry and communities on the value of pollution prevention approaches.

OPPT is the primary steward for advancing prevention as the guiding principle within EPA. In this leadership role, OPPT staff work with EPA senior management, especially the Assistant Administrator for Prevention, Pesticides and Toxic Substances, to develop and disseminate federal pollution prevention policy. OPPT provides input to critical Agency planning and budgeting processes, regional and state program guidance, and Agency "reinvention" initiatives. As in past years, OPPT has helped clarify the formal definition of pollution prevention (P2), generate formal P2 position statements, and publish materials which document EPA's prevention progress.

For example, OPPT has produced "Pollution Prevention 1997: A National Progress Report," which describes the advance of pollution prevention activities among industry, across government

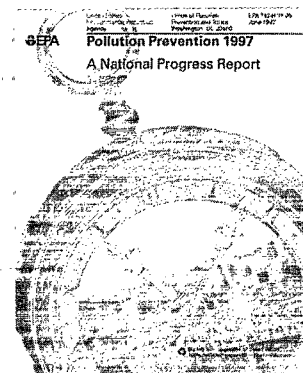
▲ Pollution prevention staff from Thurston County, WA meets with local printer to discuss P2 opportunities.





National Pollution Prevention Progress Report

Pollution Prevention 1997: A National Progress Report examines successes and challenges in pollution prevention at EPA and other federal agencies, in industry, among states and tribes, educational institutions, communities, and the non-profit sector. The report updates a similar report produced six years ago and documents the nation's progress in achieving and measuring pollution prevention. More than twenty outside authors provide guest commentaries on prevention issues. The report is available through EPA's Pollution Prevention Information Clearinghouse, 202-260-1023.



at all levels, on college campuses and within communities. The report includes guest commentaries from environmental experts and dozens of P2 success stories. OPPT's pollution prevention home page on the Internet is EPA's primary source of online prevention information, with links to a wide variety of other governmental and private prevention sources. A network of regional P2 information centers will be up and running in 1998, offering centralized and easy access to high-quality P2 information and expertise. OPPT also coordinates EPA Headquarters' observance of Pollution Prevention Week, held this year on September 15-21, 1997, which featured prevention program displays and distinguished speakers.

Also in 1997, EPA granted the first James W. Craig Pollution Prevention Leadership Award, recognizing the outstanding efforts of Dr. Joseph J. Breen, an EPA scientist who was one of the founders of the Agency's Design for the Environment and Green Chemistry programs. This annual award is established in memory of Jim Craig, an OPPT manager who died suddenly of cancer in 1995. The award will annually acknowledge EPA staff who effect fundamental and sustained improvement in the Agency's core programs and processes through the identification and integration of practical prevention solutions to environmental problems.

This chapter presents the accomplishments and activities undertaken by OPPT during FY 1997 to prevent pollution.

Business Applications

ENVIRONMENTAL COST ACCOUNTING

With a network of more than 800 participants, the Environmental Accounting Project encourages businesses to understand the full spectrum

of their environmental costs and integrate those costs into corporate accounting and decision-making processes. The Project supports information exchanges, research, training, and the development of methods for highlighting the financial benefits of pollution prevention. FY 1997 accomplishments include an upgrade of



P2\FINANCE, a software tool designed to help companies incorporate environmental costs into their capital budgeting decisions, and several publications analyzing the potential for applying environmental accounting to specific industries (See Publications section at the back of this report). Regional initiatives this past year (in EPA Regions 1, 4, 5, and 10) include training for state technical assistance providers and permittees, training for certified public accountants that work with small businesses, and environmental accounting conferences.

In January 1997, OPPT staff began a reevaluation of the Environmental Accounting Project's strategy. Upcoming activities will include an environmental costing handbook that emphasizes activity-based costing, incorporation of health and safety costs into Project documents and activities, and new environmental accounting templates compatible with widely-used commercial accounting software packages. *For more information, contact Kris Pierre at 202-260-3068, or Susan McLaughlin at 202-260-3844.*

SMALL BUSINESS DEVELOPMENT CENTER PILOT PROJECTS

OPPT is conducting pilot programs with the Vermont and Pennsylvania Small Business Development Centers (SBDCs) to demonstrate the value of providing prevention-oriented environmental assistance to small firms in a business development context. The national network of nearly 1,000 SBDCs (funded jointly by the U.S. Small Business Administration and the states) provides business planning, accounting, and tax compliance assistance to small businesses. Although the centers have unparalleled access to small businesses, most of the centers lack in-house environmental expertise.

The pilot projects are offering three types of assistance: *technical assistance* that emphasizes the

adoption of cleaner technologies; *compliance assistance* that is geared to help companies stay ahead of the "regulatory curve;" and *business development assistance* that places environmental concerns as strategic in business decisions. To date, both pilots have yielded promising results.

In the Vermont Pilot, the SBDC's Retired Engineers and Professionals Program is conducting on-site pollution prevention assessments, and the SBDC is partnering with other groups to launch a voluntary challenge/recognition program. The Pennsylvania SBDC has trained its own staff in environmental issues, and is partnering with other groups in offering environmental seminars for dry cleaners and in reaching small firms wishing to sell to the Federal Government. *For more information, contact Ed Weiler at 202-260-2996.*

Business Plan Review Service

Many young companies are unable to obtain financing because of weak or incomplete business plans. OPPT funded a pilot project in FY 1997 in which Environmental Capital Network (ECN) based in Ann Arbor, Michigan, commissioned seasoned investors in environmental technology companies to critique the business plans of start-up companies seeking equity financing. The purpose of the pilot was to see if companies found such advice useful, and how much they would be willing to pay for it.

So far the results seem promising. The Business Plan Review Service helped a company that is developing an in-process biomass gasification technology for the pulp and paper and the forest products industries to close a \$20 million financing deal with a major investor. In the second year of the pilot, ECN will make an effort to serve companies developing technologies or products with multiple environmentally-sensitive attributes. *For more information, contact Ed Weiler at 202-260-2996.*





BANKERS' FORUM

OPPT facilitated an informal forum among a small group of commercial and investment bankers, bank regulators, and bank trade associations in February 1997 to develop a common understanding of why and how banks might incorporate information derived from their clients' adoption of the new ISO 14001 (Environmental Management System) standard into routine credit or investment decision-making processes.

From the discussion, it would appear that the banking community is well aware of the potential informational value of processes or procedures which help companies address their environmental performance systematically. At the same time, in the absence of accepted methods for quantitatively relating environmental performance to financial risk, bankers have little enthusiasm for endorsing or actively promoting industry's adoption of the ISO 14001 standard — or any other specific environmental management approach.

OPPT learned an important lesson from the Forum: It will take more than persuasion to enlist the support of the banking community to promote industry's adoption of environmental management systems. Unless and until environmental performance information can be used productively by banks, activities devoted to collecting such information will continue to be viewed as dispensable in an increasingly competitive business environment. *For more information or a copy of the Forum proceedings, contact Ed Weiler at 202-260-2996.*

Common Sense Initiative: Computer and Electronics Sector



OPPT works with EPA Regions 1 and 9 in heading up the Common Sense Initiative Subcommittee on the Computers and Electronics Industry Sector. The Common Sense Initiative is an Agency-wide innovative approach to environmental protection and pollution prevention that tackles the limitations of traditional regulatory approaches in six industry sectors (automobile manufacturing, metal finishing, computer and electronics, petroleum refining, iron and steel, and printing).

The computer and electronics sector — which includes computers, fax machines, telephones, televisions, CD players, as well as electronic components of those products such as semiconductors and printed wiring boards — offers a cutting-edge view of environmental regulatory requirements in a high-tech area. The

sector is also one of the fastest growing large employers in the United States. About 60% of these facilities are concentrated in six states: California, Texas, Massachusetts, New York, Illinois, and Pennsylvania.

Three workgroups have been created in the Computer and Electronics Subcommittee to address barriers to electronic product recycling, reporting and public access to environmental information, and alternative strategies to regulation. Nine projects are currently underway, including such things as residential collections of discarded electronic equipment and consolidated reporting requirements for electronics companies. *For more information, contact Chris Tirpak at 202-260-7538.*

Environmental Justice through Pollution Prevention Grants

In FY 1997, OPPT administered the third round



of grants under the Environmental Justice Through Pollution Prevention grants program. The program promotes three of EPA's highest priorities — pollution prevention, environmental justice, and community-based environmental protection. Environmental justice refers to the fair treatment of all people under the same set of environmental laws, regulations, and policies, regardless of their race, culture, income, education, and other characteristics. Pollution prevention activities can help reduce environmental risks in disadvantaged and minority communities and promote private/public partnerships.

In cooperation with EPA's Regional Offices, 49 grants totaling nearly \$4 million were awarded in economically disadvantaged and minority communities. Under this program, OPPT will work with the Center for Hazardous Material Research to develop and implement a confidential small business pollution prevention technical assistance program, and fund the Oil, Chemical & Atomic Workers International Union to develop pollution prevention projects in partnership with environmental justice organizations for workers and nearby environmental justice communities. *For more information, contact Louise Little at 202-260-4341.*

Environmentally Preferable Purchasing

OPPT is helping federal procurement officials take advantage of the enormous purchasing power of the federal government to send a clear signal to manufacturers and service-providers that environmental performance is an important factor in making purchasing decisions. OPPT's Environmentally Preferable Purchasing (EPP) program is an outgrowth of a Presidential mandate to have the federal government give preference to the purchase of products and services

which are "environmentally preferable." Environmentally preferable products and services are those that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose.

In FY 1997, the EPP program reached out to federal agencies and vendors of environmental products through a July 1997 symposium in Baltimore which brought together more than 400 stakeholders — from federal agencies, vendors, state and local governments, and elsewhere — to exchange ideas and views about environmentally preferable purchasing. Feedback from the symposium will help guide the EPP program develop more practical and user-friendly tools.

Several pilot projects between EPA, the General Services Administration (GSA), and the Department of Defense (DOD) have demonstrated the practical application of EPP principles. FY 1997 accomplishments include:

- Continued outreach on the GSA/EPA pilot project. Environmental information on cleaning products was published in a GSA catalogue, written and video versions were provided for U.S. Postal Service training, and a cleaning product selection tool on the World Wide Web is near completion. Also, a similar effort with latex paints sold through GSA is under development.
- A DOD/EPA pilot project incorporated innovative contract language to encourage identification and use of environmentally preferable construction materials by contractors responsible for both interior and exterior renovations at the Pentagon.
- Green purchasing was documented at the Pentagon and at some of EPA's own facilities.

New pilot projects are underway or in the plan-





ning stages. In addition, the EPP Program has prepared case studies and other publications (see Publications at the back of this document). For more information, contact Eun-Sook Goidel at 202-260-3296.

Green Chemistry



The goal of the Green Chemistry Program is to foster chemical methods that reduce or eliminate the use or generation of toxic substances during the design, manufacture, and use of

chemical products and processes. The program also supports educational activities and basic research in environmentally benign chemistry, and promotes partnerships with academia and industry in developing green chemistry technologies.

Winners of the 1997 Green Chemistry Challenge, an awards program that focuses on safer chemicals, safer chemical manufacturing processes, and alternative solvents, are listed in the accompanying box.

RECIPIENTS OF THE 1997 GREEN CHEMISTRY CHALLENGE AWARDS:

- **BHC Company** (a joint venture of BASF and Hoechst Celanese Corporation) for developing a greener process to manufacture ibuprofen, the widely used anti-inflammatory drug. The new process uses fewer steps that are more efficient and less polluting, and has been commercialized in a Texas plant which is the largest ibuprofen facility in the world.
- **Imation Corporation** for its DryView™ technology, a photothermography process that allows for 'dry' developing of exposed film. In the medical imaging industry alone, the DryView technology has the potential to eliminate more than 3 million gallons per year of developer, 5 million gallons per year of fixer, and 900 million gallons per year of wash water.
- **Albright and Wilson** for its development of THPS biocides as a new class of antimicrobial agents that are less toxic, have lower use levels, do not bioaccumulate, and rapidly break down in the environment to non-toxic degradation products. The technology has the potential to replace over 42 million pounds per year of more toxic and less effective biocides in the industrial water treatment market alone.
- **Legacy Systems** for developing a chilled ozone process that uses only water and oxygen to remove photoresists and organic contaminants for the semiconductor, flat panel display, and micro machining industries. In addition to eliminating the need for Piranha solutions (solutions that require strong acids, peroxides, and other chemicals with health and environmental concerns), the alternative technology has the potential to reduce overall water consumption by more than 3.3 million gallons per year per silicon wafer wet station and more than 5 million gallons per year per flat panel display station.
- **Professor Joseph M. DeSimone** of the University of North Carolina at Chapel Hill for his development of new polymers that serve as surfactants in carbon dioxide, thus allowing the more environmentally benign carbon dioxide to replace traditional solvent/surfactant systems that emit more than 30 billion pounds of toxic compounds each year worldwide. Cleaning applications that could benefit from this technology include those in the manufacturing and service industry (precision cleaning of microelectronics and optics), medical device fabrication, and garment and textile cleaning.





The Green Chemistry program also supports a variety of educational activities — including materials development, tools, courses, and symposia — to reach chemistry students and professional chemists with a pollution prevention message. Materials currently under development include a green chemistry reference compendium, textbook supplements, and laboratory manuals. Tools include databases of green chemistry examples as well as multimedia tools such as videos and CDs. Courses under development include a training course for professional chemists and “train the trainer” workshops targeting the quick incorporation of green chemistry concepts and examples in two-year college curricula. OPPT’s partners in these educational efforts include the American Chemical Society, the National Pollution Prevention Center for Higher Education at the University of Michigan, and the Partnership for Environmental Technology Education. *For more information, contact Tracy Williamson at 202-260-3960.*

Persistent, Bioaccumulative Toxics (PBT) Initiative



Persistent, bioaccumulative and toxic chemicals are stable in the environment for long periods of time (sometimes many years), build up in the environment, particularly in food chains, and are toxic to humans and/or animals and plants. There has been a great deal of interest in these chemicals within the past few years, as PBTs have been identified all over the world in bodies of water such as the Great Lakes and oceans, in the air and in soil. Some PBTs, most notably dioxins, are extremely toxic, with the potential to cause harmful effects when very small amounts are released into the environment. Small quantities of dioxins are released during certain industrial and

combustion processes.

In recent years, more than 15 Agency workgroups and task forces have been formed to examine the scientific aspects of these pollutants, evaluate opportunities for addressing them, and take actions to reduce the risks associated with them. In 1997, OPPT was instrumental in assembling an Agency-wide initiative to coordinate a multi-media approach that will precipitate a reduction of PBTs in the environment. The PBT Initiative was submitted as part of EPA’s FY 1999 budget request.

The Initiative will use the full range of EPA tools — international, regulatory, programmatic, compliance, enforcement, and voluntary — and will favor their prevention-based application whenever possible, i.e., preventing new PBTs from entering, or phased-out uses of PBTs from re-entering, the market. Three important initial efforts of the Initiative are the following:

International Activities: The PBT Initiative recognizes that international commitments are a strong driver for action. Accordingly, it has embraced the Level 1 list of 12 pollutants in the Canada-U.S. Binational Strategy for the Virtual Elimination of Persistent Toxics in the Great Lakes as an initial set of priority PBTs to target for action. Since EPA is also engaged in a range of other international negotiations affecting PBTs, the PBT Initiative will have a strong working relationship with EPA’s International Toxics Coordinating Committee and other cross-office teams which support EPA’s preparation for these negotiations.

Great Waters Activities: The PBT Initiative coincides with the efforts of the air, water, and geographically-based programs (Great Lakes, Chesapeake Bay, Gulf of Mexico, and National Estuaries) to apply cross-media authorities to achieve continued environmental progress. EPA published its second Great Waters Report in





1997, which identifies nearly the same list of pollutants as on the Level 1 list of the Binational Strategy — pollutants that transfer easily from air (through deposition) to great water bodies and smaller lakes, and that are the cause of many fish consumption advisories. Collaboration between the Air and Water Offices continues on air deposition concerns.

Prioritization: After developing an action plan for the Level 1 pollutants under the Binational Strategy, the PBT Initiative will move to select a second round of priority PBTs for action. One focus may be the Office of Solid Waste's (OSW) Waste Minimization National Plan, which sets goals to reduce the most persistent, bioaccumulative, and toxic chemicals in hazardous wastes.

OPPT has embarked on several activities to reduce the proliferation of PBTs. They include:

- Developing a PBT category in the New Chemicals program.
- Development of a PBT test rule.
- Development of a significant new use rule for dead PBT chemicals. "Dead" PBTs are chemicals no longer produced or used in this country but are still present in the environment (e.g., chlordane and PCBs).
- Identifying PBTs listed on the Toxics Release Inventory (TRI). TRI currently includes information on several PBT chemicals such as chlordane, lindane, mercury compounds, benzo(a)pyrene, and PCBs. In May 1997, EPA proposed to list dioxins and dioxin-like chemicals (PCBs, polychlorinated dibenzofurans) on TRI. Current reporting thresholds for TRI are too high to capture releases of PBT chemicals at the low levels that are actually released. Therefore, EPA is considering lowering the reporting thresholds for all TRI-listed PBTs. EPA is also considering how to deal with other chemicals on TRI that have

been identified as PBTs and whether other PBTs should be added to TRI. EPA is also evaluating the inclusion of PBTs on TRI for monitoring and benchmarking activities. *For more information, contact Myra Karstadt at 202-260-0658.*

Pollution Prevention Incentives for States (PPIS) Grants

The Pollution Prevention Incentives for States (PPIS) grant program fosters innovative prevention approaches by states and the establishment of cross-media state and tribal pollution prevention programs. Since the inception of the grant program in 1989, EPA has awarded approximately \$49 million. In FY 1997, 58 grants totaling \$5 million were awarded by EPA's Regional Offices.

Through PPIS grants, OPPT seeks to build state pollution prevention capabilities and to test innovative pollution prevention approaches and methodologies at the state level. PPIS is designed as a state-based program because EPA believes that states have more direct contact with, and influence over, generators. The two major national criteria for the 1997 PPIS grants were (a) the promotion of cooperation among environmental assistance providers and (b) the advancement of a state's overall goals as defined in its environmental performance agreements developed under the National Environmental Performance Partnership System (NEPPS). Special emphasis was also given to partnering with Manufacturing Extension Partnerships centers under the Commerce Department to develop a cooperative system of technical assistance at the state level to meet the needs of industry. *For more information, contact Christopher Kent at 202-260-3480.*

Pollution Prevention in the Regions

EPA's Regional Offices have been active agents in promoting the Agency's P2 mission, pursuing partnership opportunities with states, industry, and a variety of other organizations to develop innovative P2 approaches. Following are examples of Regional accomplishments in FY 1997:

- **P2 Integration in Regional Program Management.** Nearly every Region has found important ways to encourage P2 and multi-media approaches in its management activities. For example, Region 1's New England Environmental Assistance Team provides comprehensive, multi-media compliance and P2 assistance to selected sectors of the regulated community. Region 4 has developed a new Regional P2 Strategy that engages all Regional core media programs in creating and conducting P2 activities in mainstream activities. Region 5's cross-program P2 Team created a "Waste Reduction in Our Workplace" initiative to further waste reduction activities within day-to-day Regional activities, such as implementing P2-friendly contracts. In Region 7, the P2 program provides interns to the Regional media programs for P2 projects through a competitive selection process.
- **Regulatory Implementation.** In its Pollution Prevention in Permitting Pilot Project, Region 10 has partnered with Intel Corporation, the world's largest semiconductor manufacturer, to develop an implementable Clean Air Act Title V operating permit that incorporates both pollution prevention and permit flexibility, and provides a model for other companies. This project will soon expand to focus on water permitting activities. In Region 2, Eastman Kodak Company agreed to

spend at least \$12 million to cut hazardous waste in six supplemental environmental projects in a RCRA settlement.

- **Private Sector Partnerships.** In Region 1, the "CLEAN" Program has capitalized on OECA's new small business and audit policies to help promote industry/state/EPA partnerships, initially with metal finishers in Maine and New Hampshire.
- **Cross-Regional Initiatives.** The Tri-State Geographic Initiative, led by Region 3, is a

P2 and Local Governments

OPPT is helping local governments develop the capacity to integrate pollution prevention solutions to a wide variety of local issues. OPPT works with the National Association of Counties (NACo) to increase pollution prevention efforts at the local government level. Activities include providing general P2 outreach and information to NACo's 3000-plus member base and developing a Challenge Program to incorporate environmental considerations into local government purchasing procedures.

OPPT also provides P2 information and outreach to the National Association of City and County Health Officials (NACCHO). A recent joint project was a fact sheet clarifying the relationship between pollution prevention, drinking water, and public health. NACCHO is currently trying to increase local health department understanding of the potential uses of Geographic Information Systems (GIS) in integrating pollution prevention into local public health programs. GIS mapping paints a picture of environmental and health related events in a geographic context.

OPPT is also working with the National Association of Physicians for the Environment (NAPE) to help them develop a national program for the "greening" of health care. Thus far, NAPE has developed a physician's green office guide, which is part of a larger effort to develop an entire system of "greening" manuals, pledges and certificates, and training programs for medical offices and institutions. *For more information, contact Danielle Fuligni at 202-260-4172.*





multi-media environmental study involving the states of Kentucky, Ohio, and West Virginia, EPA Regions 3, 4, and 5, the Ohio River Valley Water Sanitation Commission, and local environmental agencies, whose purpose is to identify P2 approaches to reduce pollution sources in the tri-state area, addressing both businesses and citizens as sources of pollution and as partners in prevention. The Great Lakes Regional Pollution Prevention Roundtable, led primarily by Region 5 and involving eight states and Ontario, has created an effective regional P2 information and assistance mechanism to help states better address regulatory and other environmental challenges.

- **Targeted Industrial Sectors.** The Great Printers Project in Region 5, co-led by EPA's P2 Policy Staff (now in OPPTS) has enlisted the Council of Great Lakes Governors, the Printing Industries of America, the Environmental Defense Fund, and state environmental and technical assistance agencies to make P2 the standard practice in the printing industry, by developing an electronic consolidated reporting system in Wisconsin. Region 2 has also targeted the printing sector in the New York City area by engaging state agencies and printing trade associations in a Seminar Series for Printers.
- **Community-Based Projects.** Under its South Phoenix Pollution Prevention Project for Metal Finishers, Region 9 has partnered with the state, the Lawrence Livermore National Laboratory, the City of Phoenix, and the local chapter of the American Electroplaters

and Surface Finishers Society to provide P2 technology transfer to metal finishers, first reaching those located in an environmental justice community and then more broadly around the state.

- **Federal Partnerships.** The National Park Service Project in Region 8 has leveraged the P2 expertise of the Region and the resources of the National Park Service to successfully reduce or eliminate solid and hazardous waste streams in more than 35 national parks, thereby lowering ecological risks and saving millions of dollars.
- **Recognition and Award Programs.** Region 10's Evergreen Award honors environmental leaders in the business community who promote a cleaner and safer environment and save operating costs at the same time. Region 9's locally-based Green Business Recognition Program utilizes a multimedia checklist to reward businesses as diverse as auto repair shops and wineries that have strong compliance and pollution prevention records. In June 1997, Region 7 made eight Pollution Prevention Awards for Environmental Excellence at the Midwest Pollution Prevention Conference in Kansas City, Missouri, sponsored by Region 7 and the Region 7 Pollution Prevention Roundtable.
- **Prevention Tools.** Region 9's planned P2 Through Technology Transfer pilot project will help test a new P2 risk assessment framework, developed in an earlier OPPT project with Kodak, and will help regional industries promote facility-based P2 activities.



Voluntary Standards Network & ISO 14000 Environmental Management Standards

OPPT manages the 130-member Voluntary Standards Network, EPA's principal mechanism for coordinating Agency input to the U.S. Technical Advisory Group on ISO 14000 and communicating EPA policies on environmental management systems (EMSs). EPA's increasing involvement in voluntary standards and EMSs is a result of:

- The new International Organization for Standardization (ISO) Environmental Management System standards and Auditing standards (ISO 14001 and 14010 respectively), which are being implemented by organizations worldwide.
- The National Technology Transfer and Advancement Act (NTTAA) and OMB Circular A-119, which require that federal agencies use voluntary standards in their activities where appropriate and participate in their development.
- The emergence of environmental considerations in GATT and World Trade Organization agreements which govern international trade.

The Network is responding to these events with a range of different activities:

ISO 14000 Series: The Network, working closely with the Office of Reinvention, is developing an "EPA Position Statement on Environmental Management Systems and ISO 14001" which will be published in the *Federal Register*. This notice will outline EPA's views of the benefits and weaknesses of these approaches and explain the status of regulatory and enforcement incentives based on EMSs and the ISO 14001 standard.

NTTAA and OMB Circular A-119: With the Department of Energy, the Network is exploring the role of the federal government in implementing or integrating an EMS, providing technical assistance, procurement, and performance indicators. Members of the Network are developing a voluntary standards checklist for EPA rule writers. Also, a guideline for EPA employee participation in standards developing organizations is being drafted. The Network is also working toward increasing the involvement of non-governmental organizations (NGOs) in ISO 14000, with the goal of establishing an NGO Working Group to participate in the standards development and implementation processes. OPPT and other EPA offices have also been working with representatives from the Region 3 Environmental Science Center to develop an ISO 14001-based EMS demonstration project. *For more information, contact Mary McKiel at 202-260-3584, Eric Wilkinson at 202-260-3575, or Alison Kinn at 202-260-1090.*





Workgroups, Forums, and Committees

FORUM ON STATE AND TRIBAL TOXICS ACTION (FOSTTA)

In continuing its commitment to collaborate with the states and tribes on toxic chemical-related issues, OPPT renewed a five-year cooperative for the Forum on State and Tribal Toxics Action (FOSTTA) in FY 1997. During the year, emphasis was placed on increasing Native American participation. A new Pollution Prevention Project was formed to secure the counsel of senior state and tribal officials to help guide pollution prevention activities in EPA and to promote the prevention of pollution in their own environmental programs. FOSTTA meetings were convened three times in FY 1997 to exchange information on issues such as endocrine disruptors, biotechnology, children's right-to-know legislation, the Toxics Release Inventory, and the consumer labeling initiative. *Contact: Darlene Harrod, 202-260-6904.*

POLLUTION PREVENTION TRADE ASSOCIATION WORKGROUP

The Pollution Prevention Trade Association Workgroup brings together major trade and industry associations and EPA staff to improve communications and help these groups promote pollution prevention among their member companies. *Contact: Phil Robinson, 202-260-3910.*

MEDIA ASSOCIATION POLLUTION PREVENTION FORUM

In cooperation with the National Conference of State Legislatures, OPPT convenes a forum of senior state air, water, waste and toxics program directors representing the "environmental media" associations. The

forum meets periodically to examine opportunities for incorporating pollution prevention in a cross-media fashion into environmental management practices. *Contact: Lena Hann Ferris, 202-260-2237.*

OFFICE DIRECTORS' FORUM

EPA's new Office Directors' Multi-Media and Pollution Prevention Forum integrates work being done across EPA on cross-media and pollution prevention issues, such as the Persistent, Bioaccumulative and Toxics Initiative. *Contacts: Kathy Davey, 202-260-2290; Paul Matthai, 202-260-3385.*

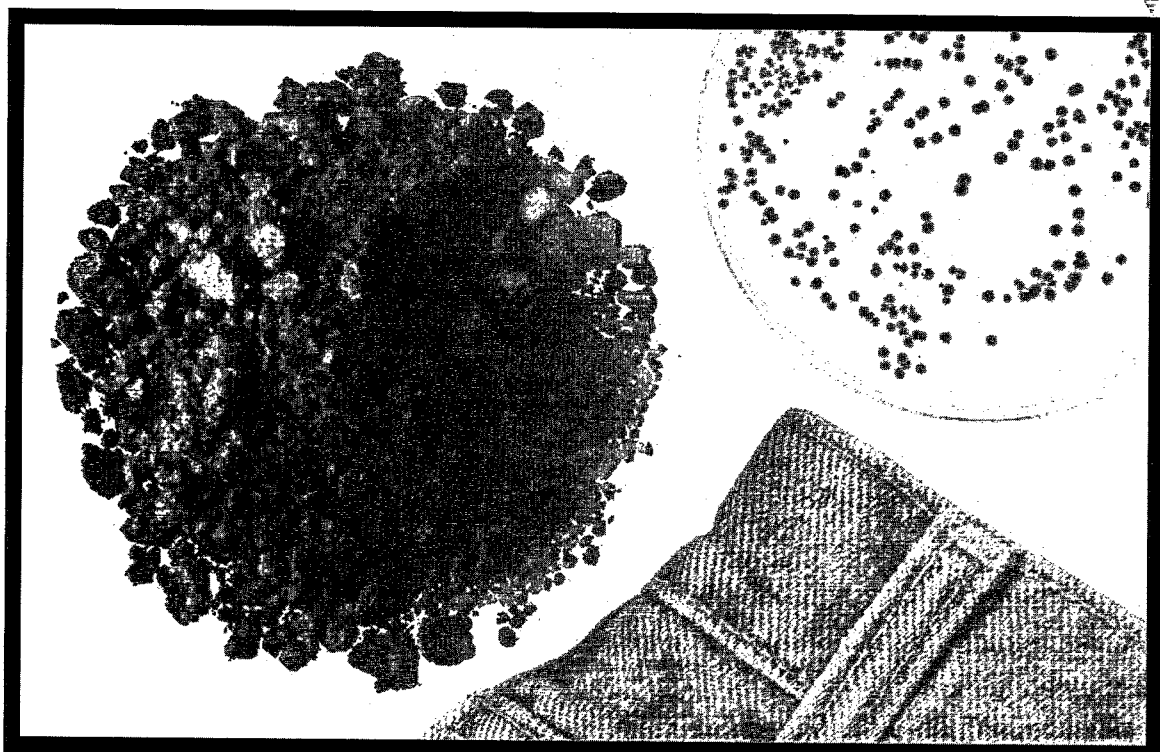
ONE AND TAC COMMITTEES

The ONE Committee brings together EPA, the Occupational Safety and Health Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH), and the Mining Safety and Health Administration (MSHA) on a monthly basis to discuss issues of concern and share information. *Contact: Matt Gillen, 202-260-1801.* The TAC Committee meets quarterly and brings together staff from EPA and the Consumer Product Safety Commission (CPSC) to discuss cross-cutting issues. *Contact: David Piantanida, 202-260-2983.*

PARTNERSHIP PROGRAMS COORDINATING COMMITTEE

OPPT is a key player in this Agency-wide committee which coordinates EPA's voluntary partnership programs, many of which are prevention-oriented. *Contact: Ellie McCann, 202-260-4168.*

▼ II. PROMOTING SAFER CHEMICALS



Genencor

All new chemicals introduced into commerce must be evaluated by OPPT before they can be manufactured or imported into this country. This authority, granted under the Toxic Substances Control Act (TSCA), is the ultimate embodiment of pollution prevention, as it allows OPPT to prevent the introduction of unacceptably toxic chemicals into the marketplace before they can harm public health or the environment. This pre-commercial evaluation also provides incentives for the swift introduction of safer alternatives to toxic chemicals. Through the Premanufacture Notification program, Design for the Environment, Green Chemistry, and other efforts, OPPT encourages the chemical industry at the earliest stages of research and design to produce and use safer chemicals.

This pre-manufacture review also extends to new genetically engineered organisms. Biotechnology, a new area of scientific interest and commercial activity, is developing and expanding rapidly. The evaluation process significantly reduces the possibility that harmful genetically engineered organisms could be released into the environment.

All industrial chemicals currently in commerce in the United States, approximately 70,000, are listed on the TSCA Inventory. OPPT has the enormous task of evaluating the list to identify chemicals that are of most concern. The chemical information gathered, evaluated, and distributed by the new and existing chemicals programs is the basis for much of the work within the office. Over the years, OPPT has developed evaluation procedures and models which are used not only by this

▲ Genencor won a New Chemicals Recognition award for its new, environmentally friendly manufacture of indigo dye.





office and within the Agency, but also by the international community. OPPT is a leader in the identification and reduction of risks from chemicals, and is working with states, local communities, industry, federal agencies and other interested and concerned partners, including some in the international community, to ensure improved health and safety for workers and better environmental protection.

Benzidine-Based Dyes

OPPT is proposing a significant new use rule (SNUR) under TSCA which would require persons to notify EPA at least 90 days before commencing the manufacture, import, or processing of dyes containing two categories of benzidine congeners (o-toluidine and o-dianisidine) which are hazardous to human health. Companies that wish to manufacture, process, or use these benzidine congener dyes will need to submit a significant new use notice to EPA. The required notices will give EPA the opportunity to evaluate the intended new use and associated activities before these dyes can be reintroduced into the marketplace, thus protecting against potentially adverse exposure. Two leading

manufacturers have already agreed to reduce or eliminate the risks associated with these dyes. Similar negotiations with other leading manufacturers will begin in the near future. *For more information, contact Carolyn Grandson at 202-260-1560.*

Biotechnology

The final biotechnology rule for microbial products of biotechnology subject to TSCA was published in the *Federal Register* on April 11, 1997 (62 FR 17910-17958), and became effective on June 10, 1997. The final regulations will be codified in Part 725 of Title 40 of the Code of Federal Regulations.

Under the new regulations, persons intending to manufacture, import, or process intergeneric microorganisms for commercial purposes in the United States are required to file information with EPA at least 90 days prior to initiating such activities, unless the microorganism or the activity is eligible for an exemption from reporting. Intergeneric microorganisms are microorganisms resulting from deliberate combinations of genetic material originally isolated from organisms of different taxonomic genera. EPA selected these microorganisms for regulatory scrutiny because of the degree of human intervention involved, the significant likelihood of creating new combinations of traits, and the greater uncertainty regarding the effects of such microorganisms on human health and the environment.

While fully protecting human health and the



Farming the plot with the PC-2 strain for alfalfa



environment, the final rule includes a number of reporting exemptions that will help reduce the reporting burden on the biotechnology industry. OPPT's draft guidance for industry, *Points to Consider in the Preparation of TSCA Biotechnology Submissions for Microorganisms*, can be downloaded from OPPT's Internet site (www.epa.gov/opptintr/biotech).

OPPT's Internet site also has information on microbial biotechnology products reviewed under TSCA. These new products include the intergeneric *Sinorhizobium meliloti* Strain RMBPC-2. A September 1997 Consent Order allowed limited distribution of this organism for use as an alfalfa seed inoculant. This microorganism will be the first commercialized for environmental use under TSCA. *For more information, contact David E. Giamporcaro at 202-260-6362.*

Design for the Environment Program



The Design for the Environment (DfE) Program helps industry make more informed environmental decisions about the use of alternative chemicals, processes, and technologies to prevent pollution. The DfE program works through voluntary partnerships with industry, professional organizations, state and local governments, other federal agencies, and the public. Of the numerous projects underway in FY 1997, four are highlighted below. *For more information on the DfE program and specific projects, access the DfE Web site at www.epa.gov/dfe or contact Irina Vaysman at 202-260-1312.*

COMMUNITY COLLEGE PARTNERSHIP

The DfE Program has joined forces with the Partnership for Environmental Technology Education (PETE) to form the DfE-PETE Alliance. PETE is a nonprofit organization established to promote en-

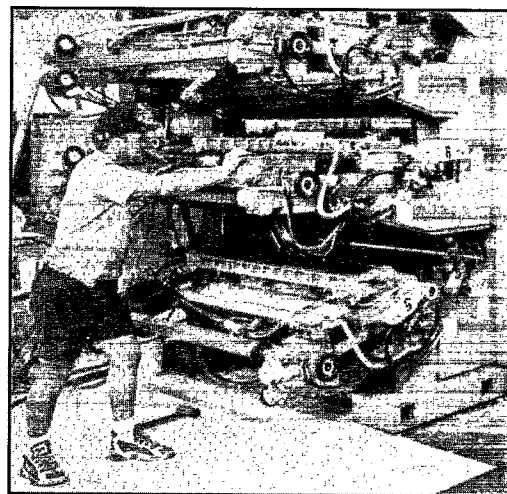
vironmental technology education through curriculum development and professional development training for environmental educators. The DfE-PETE alliance incorporates DfE and P2 information into the curricula of 650 community and technical colleges nationwide.

In FY 1997, PETE hosted six regional workshops introducing more than 600 community college instructors to newly developed curricula and videos. A series of 18 sessions across the country brought more than 150 automotive repair instructors together for training in teaching P2 and DfE concepts. Another 76 chemistry instructors learned instructional techniques using small scale or micro-scale chemistry. The second year of the DfE-PETE Alliance will continue these initiatives and focus on the printing industry and auto fleet maintenance. *For more information, contact Carol Hetfield at 202-260-1745 or Irina Vaysman at 202-260-1312.*

FLEXOGRAPHIC PRINTING

The DfE Flexography Project is working in partnership with the flexographic printing industry to evaluate the environmental and cost performance impacts of using three different types of ink (solvent-based; water-based; and ultraviolet (UV)-curable) on a wide variety of substrates.

With performance data, as well as information on health and environmental risks, printers will be more likely to select alternative water-based and UV-cured inks for a



A press worker attends a central impression flexographic press during a DfE Flexography Project on-site performance demonstration.





broader range of applications.

The Project is running field demonstrations during the winter of 1997-98 at volunteer printing facilities across the United States and in two plants in Europe. The inks have also been tested in a controlled laboratory setting at the Printing Pilot Plant of Western Michigan University. A full technical report will be available in 1998, along with outreach tools, including case studies, videos, and training materials, to help press operators and facility owners make informed decisions about ways to improve environmental performance and their competitive market position. *For more information, contact James Rea at 202-260-0720.*

GARMENT AND TEXTILE CARE PROGRAM

In FY 1997, the DfE Dry Cleaning Project expanded its efforts to promote environmentally benign alternative technologies for garment and textile care. Renamed the Garment and Textile Care Program, this partnership between EPA and the dry cleaning industry takes a systems approach to the development, fabrication, manufacture, distribution and care of garments and textile products.

The historical focus of the Project has been to encourage alternatives to perchloroethylene, or "perc." The expanded project is working cooperatively with key stakeholders to develop a ten-year strategy for the reinvention of the garment and textile industry. One product of this project is that hundreds of professional dry cleaners have incorporated wet cleaning into their routine garment care. Another alternative technology, liquid CO₂, is in the testing and evaluation phase and will become commercially available in 1998. These and other alternative technologies are presented in *Cleaner Technology Substitutes Assessment for Fabricare*, a technical

report on the program's efforts that is currently undergoing peer review and is expected to be released in Summer 1998.

The Project has also established an information help line for dry cleaners; developed a Wet Cleaning Curriculum which will be used by technical training institutes and dry cleaning trade associations; and published a range of outreach material including a Resource Guide that lists pollution prevention resources for dry cleaners. *For more information, contact Cindy Stroup at 202-260-3889.*

PRINTED WIRING BOARDS

In FY 1997, DfE Printed Wiring Board (PWB) Project participants completed a draft *Cleaner Technologies Substitutes Assessment (CTSA)* for the "making holes conductive" step of PWB manufacturing. The alternatives examined would replace a current technology that uses formaldehyde and other toxic chemicals, consumes large quantities of water and energy, and generates a significant amount of hazardous waste.

In addition to this effort, the DfE project partnership team began a second assessment to evaluate several lead-free alternative surface finish technologies which can replace the "hot air solder leveling" process. The assessment will look at the potential health and environmental risks, performance, and costs of alternative technologies. *For more information, contact Kathy Hart at 202-260-1707.*

Endocrine Disruptors

Chemicals that can behave as hormones and disrupt endocrine systems are an emerging concern because of the potential hazard they pose to reproductive and developmental systems in wildlife and possibly in humans as well. A great deal of research and discussion is now underway within the scientific community regarding the



adverse impacts of these chemicals. Children and fetuses may be at particular risk, but additional research is needed to determine the extent of the risk and identify the specific chemicals that pose a problem.

EPA is required to establish a mandatory screening and testing program for pesticides by August 1998 under the 1996 Food Quality Protection Act, and is authorized to screen and test certain chemicals under the 1996 Safe Drinking Water Act. EPA established an Endocrine Disruptor Screening and Testing Advisory Committee (EDSTAC) in October 1996, charged with developing recommendations for an endocrine disruptor screening and testing strategy responsive to these legislative mandates. EDSTAC has decided to consider human health and ecological effects; estrogenic, androgenic, anti-estrogenic, anti-androgenic and thyroid effects; and pesticides, industrial chemicals, and important mixtures in its deliberations.

EDSTAC, which was established under the Federal Advisory Committee Act, operates in an open public forum, with four workgroups. Recommendations are expected to be issued in Spring 1998 and will be peer reviewed by EPA's Science Advisory Board and the FIFRA Scientific Advisory Panel, and will include consultation with the National Academy of Sciences. *For more information, access the EDSTAC home page at www.epa.gov/opptintr/opptendo, or the Endocrine Disruptor Working Group home page at www.epa.gov/endocrine/frame/text.html; or contact Gary Timin at 202-260-1859 or Anthony Maciorowski at 202-260-3048.*

Exports of Chemicals

TSCA requires EPA to notify importing countries of the export or the intended export of industrial chemicals or mixtures that are subject to certain regulatory actions under the law. Approximately

1,100 chemicals come under this requirement. These notices also satisfy the information exchange provisions of the Prior Informed Consent (PIC) procedures under the United Nations Environment Programme. For chemicals banned or severely restricted in the U.S. and subject to the PIC procedures, EPA forwards to the designated national authority of the importing country information on the chemical's regulatory controls. In FY 1997, 9,429 Section 12 (b) notices were received by EPA from exporters.

As a member of the Organization for Economic Cooperation and Development (OECD), the U.S. participates in a Complementary Information Exchange Procedure intended to help countries coordinate their chemical control activities. In FY 1997, 170 *Federal Register* notices, brochures, and other documents describing OPPT activities were sent to member countries, the most ever distributed in a year since the program began. *For more information, contact Lisa Faeth at 202-260-1817.*

International Activities

COMMISSION FOR ENVIRONMENTAL COOPERATION

The Commission for Environmental Cooperation (CEC) facilitates cooperation and public participation in fostering conservation, protection, and enhancement of the North American environment for the benefit of present and future generations. The CEC was established by the North American Free Trade Agreement (NAFTA) countries in 1994 to address environmental concerns in the context of increasing economic and social links among Canada, Mexico, and the United States. Under its charter, the North American Agreement for Environmental Cooperation (NAAEC), the three countries agree





to a core set of principles, including reporting on the state of the environment, effective enforcement of environmental law, improved access to environmental information, and promoting the use of economic instruments to achieve environmental goals.

OPPT has been most active in Council Resolution #95-5, Sound Management of Chemicals, which focuses on chemical pollutants transported across national boundaries through air and watersheds and traded products. The first four substances addressed under the Sound Management of Chemicals Program were PCBs, mercury, DDT, and chlordane. Action plans for PCBs, DDT, and chlordane have been signed by environmental ministers of the three countries. The action plan for mercury will be signed in FY1998. *For more information, access the CEC Web site at www.cec.org.*

ENVIRONMENT LEADERS' SUMMIT

On May 5-6, 1997, EPA Administrator Carol Browner hosted the Environment Leaders' Summit of the G7 countries plus Russia (known as "G7 + 1" or "The Eight") in Miami, Florida. At the Summit, the eight countries agreed to a declaration on Children's Environmental Health and related implementation actions. These documents provide a framework for domestic, bilateral, and international efforts to improve the protection of children's health from environmental threats and specify concrete actions to incorporate consideration of children into environmental science, risk assessments, and risk management. The Eight also agreed on specific policies and actions regarding lead, drinking water, air quality, environmental tobacco smoke, endocrine disruptors, and global climate change.

The Eight agreed to work to reduce blood lead levels in children to below 10 micrograms per deciliter. They also committed to the spe-

cific actions outlined in the OECD Declaration on Lead Risk Reduction. These commitments extend to a global scale several policies that OPPT played a major role in developing.

The Eight agreed to exchange monitoring data on microbial problems in drinking water and to collaborate on research to develop disinfectant technologies. With regard to endocrine disruptors, the Eight pledged to coordinate and cooperate on a research agenda and to support the OECD initiative to develop a battery of screening and testing guidelines that considers the special susceptibilities of children.

Indoor air quality for children also drew attention. The Eight will exchange information on risks to children from indoor contaminants and from environmental tobacco in particular.

Recognizing the problem of global climate change, the Eight expressed their special concern that children are among the most susceptible to more severe heat waves, more intense air pollution, and the spread of infectious diseases which are among the potential consequences of climate changes. *For more information, contact Joe Carra at 202-260-1815.*

GORE-CHERNOMYRDIN COMMISSION

High-level cooperation between the United States and Russia takes place at many levels in this commission. Administrator Browner and her Russian counterpart co-chair the Commission's Environmental Committee; Health and Human Services Secretary Donna Shalala co-chairs the Health Committee Chair with the Russian Minister of Health. Areas of cooperation under the purview of these committees extend from micronutrient malnutrition in Russia to protection of the Arctic ecosystem.

OPPT co-chairs the Environmental Health Subcommittee, which provides a link between the Environment Committee and the Health

Committee. This subcommittee is promoting environmental health in Russia through the transfer of basic principles, methods, and technologies, with a current focus on lead and pesticides.

Lead. The subcommittee has helped the Russians identify their areas of greatest lead exposure. From this collaboration, the Russians developed a White Paper on the problem of lead in Russia which recommends specific actions and calls for a Russian federal targeted program. At the urging of Vice President Gore, the Russians are beginning to implement this program. A workshop was held on phasing out lead from gasoline. Experts from the U.S. met with their Russian counterparts to discuss the U.S. experience with a phase-out.

U.S. experts from the Centers for Disease Control worked with local authorities in Saratov to study the extent of lead problems in that Russian city. Blood lead samples were taken from 600 kindergarten children. About 25% of them had lead levels exceeding 10 micrograms per deciliter ($\mu\text{g}/\text{dl}$), a percentage comparable to highly-exposed, poor inner city children in the U.S. However, 84% of children in the vicinity of a battery recycling plant in Saratov had levels exceeding 10 $\mu\text{g}/\text{dl}$. The Saratov study is now being duplicated in three other Russian cities — Ekaterinburg, Krasnouralask and Volgograd. About 1,000-2,000 children will be tested in these cities using a new portable blood-lead analyzer. This new U.S.-developed technology is being used in an operational setting for the first time in these cities. This technology has many advantages over standard practice including much reduced cost, instant results, and less opportunity for mishandling or misanalyzing samples. While these advantages are critical in the struggling Russian economy, the technology could also be extremely helpful in screening large numbers of children in any country, including our own.

Pesticides. At a workshop on pesticides held

in Russia, three areas for cooperation were identified: (1) harmonization of registration and regulation; (2) safe storage and disposal of pesticides; and (3) monitoring of health effects, epidemiological research and prevention programs.

Beyond the immediate projects on lead, pesticides, and other environment and public health problems, EPA's efforts are also playing a significant role in building lasting bridges of collaboration and friendship between our two countries. *For more information, contact Joe Carra at 202-260-1815.*

HARMONIZATION WITH CANADA

In September 1997, 10 OPPT managers travelled to Canada to meet with their counterparts in Environment Canada and Health Canada to share information concerning new chemical, existing chemical, and testing programs in the two countries, improve understanding and coordination on chemical activities, and explore mutually beneficial activities. Major differences and the strengths and weaknesses of both country's programs were discussed, as well as specific activities with the Four Corners pilot project, Mutual Recognition of Assessments (MRAs), and the upcoming New Chemicals Workshop in Mexico.

The Four Corners Pilot Project is an information sharing system for new chemicals that have gone through U.S. review but are not yet on the Canadian chemical inventory. It was the consensus of Health/Environment Canada and EPA that more experience is needed with the project before any conclusions regarding its future can be drawn. During the meeting U.S. and Canadian industry representatives met with the government representatives to discuss industry's concepts of how a Mutual Recognition of Assessments agreement might work between the U.S. and Canada. It was also con-





cluded that a joint U.S./Canada risk assessment workshop should be held after the completion of the Four Corners project. *For more information, contact Becky Cool at 202-260-8539.*

LONG-RANGE TRANSBOUNDARY AIR POLLUTION (LRTAP)

Under the auspices of the United Nations Economic Commission for Europe, OPPT participates in negotiations of the Convention on Long-Range Transboundary Air Pollution (LRTAP). These negotiations center around development of national air emissions inventories and the control of heavy metals and persistent organic pollutants (POPs). POPs from major stationary sources and mobile sources, and management and control of products containing POPs and heavy metals are also under discussion. The major product categories of concern to OPPT under these negotiations include leaded gasoline and the use of PCBs and mercury in products. The LRTAP POPs negotiations are expected to conclude in 1998, while the LRTAP heavy metals negotiations are on a somewhat slower schedule. *For more information, contact Lin Moos at 202-260-1866.*

New Chemicals Program



SIGNIFICANT NEW USE RULES, PREMANUFACTURE NOTIFICATIONS

OPPT may issue a significant new use rule (SNUR) when potential new uses of a new or existing chemical could result in increased exposures or releases of the substance and pose an unreasonable risk to human health or the environment. A total of 45 significant new use rules were issued in FY 1997. These rules provide OPPT with the opportunity to review the

interaction of the chemical in a different process and for different uses.

In addition, four new chemical SNURs were revoked. In a separate effort on acrylates, OPPT withdrew the generic acrylate SNUR, revoked SNURs for 96 acrylate substances, and revoked Section 5(e) Consent Orders for 121 acrylate substances based on a review of carcinogenicity data on two acrylate substances which eliminated the health hazard for this category.

Under Section 5 of TSCA, OPPT reviews chemical information submitted by manufacturers to detect if newly developed chemicals pose a threat to human health and the environment. In FY 1997, the New Chemicals Program reviewed 1,483 premanufacture notifications (PMNs) and received testing data on another 36 substances. *For more information on PMN statistics, contact Becky Cool at 202-260-8539.*

OPPT has been working on a PMN form that can be used by industry to transmit PMN data to EPA electronically. As part of the OPPT Electronic Commerce project, OPPT staff have met with industry representatives to investigate options that would satisfy both EPA's needs in tracking and reviewing PMN data, and industry's needs for a simple, affordable, and dependable electronic transmittal system. When developed, printable forms will also be included on the New Chemicals Program's Web site on the Internet.

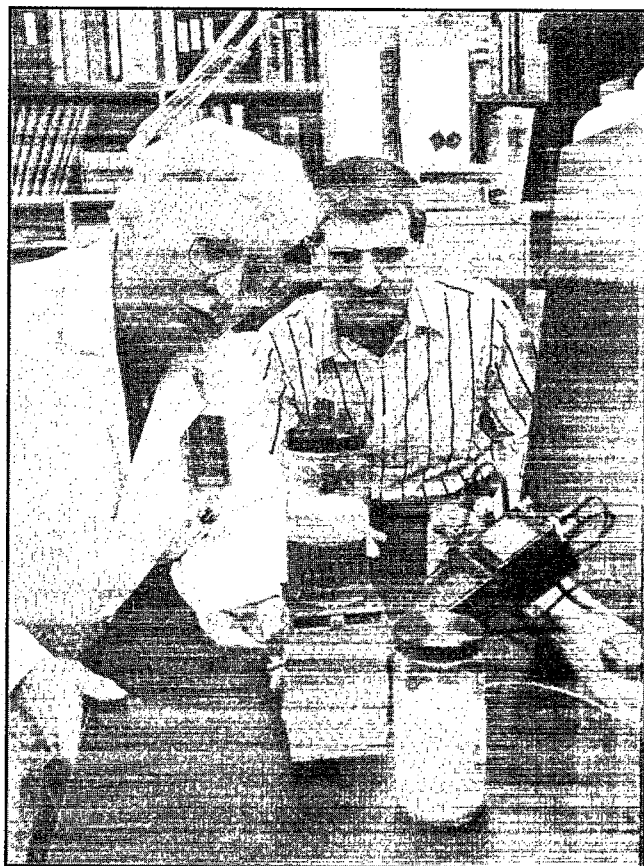
As part of OPPT's customer service standards, later this year OPPT anticipates meeting the request of chemical manufacturers for regular posting of early PMN regulatory outcomes on the NCP Web site. *For more information, contact Anna Coutlakis at 202-260-3592.*

The NCP Web site (www.epa.gov/opptintr/newchem) is intended to communicate general information about the program and procedures for review of new industrial chemicals. Target au-

The 1997 New Chemicals Pollution Prevention Recognition Award

The New Chemicals Pollution Prevention Recognition Project recognizes selected PMNs submitted for new chemical substances that may constitute safer substitutes or be developed via pollution prevention processes. Recipients for 1997 are listed below. *For more information, access www.epa.gov/opptintr/newchem.htm, or contact Roy Seidenstein at 202-260-2252 or Ken Moss at 202-260-3395.*

- **Genencor** developed a biotechnology pathway to environmentally friendly manufacture of indigo dye. Genencor's process uses an intergeneric microorganism, glucose and other microbial nutrients instead of hazardous reagents like aniline, formaldehyde and hydrocyanic acid to create this commercially important dye, which is used to color blue jeans, among other things.
- **Union Carbide** developed a "splittable surfactant" to meet customer needs at industrial laundry and metal-working operations. The product satisfies the effluent composition limits of publicly owned treatment works (POTWs). Customers can use the new technology to reduce biological oxygen demand (BOD) and fats, oils, and grease in effluent, rather than using other more toxic surfactants or simply diluting the effluent to meet POTW requirements.
- **Conrad Industries** developed an innovative chemistry/process for recycling many plastics not currently recycled and does not require sorting of different plastics in the waste stream. The technology chemically converts used plastic into fuel-grade petroleum feedstocks.
- **Engelhard** manufactured a new yellow pigment that replaces heavy metal and diaryl-based formulations. This innovation is expected to reduce human and environmental exposure to heavy metals like lead and chromium and to diaryl compounds and byproducts like dichlorobenzidine, which are used in other yellow pigments. A shift to this new product would lower the risk to society of adverse health effects associated with the use and release of heavy metals or benzidine derivatives.
- **Huls America** developed a non-phosgene process to manufacture isocyanates. Isocyanates are typically manufactured using phosgene, a highly toxic and dangerous gas. Huls America's new phosgene-free process avoids the many health and environmental hazards related to the use of phosgene. Also, the process yields a blocked isocyanate intermediate, which can be stored, handled and transported more safely than other isocyanates.



Sharon Haynes, Union Carbide senior laboratory technician in South Charleston, and Albert Joseph, development scientist, inspect an emulsion after Union Carbide's new TRITON SP series surfactant has been deactivated, separating the emulsion into two distinct materials. When used in laundry detergents, the deactivation allows for rapid separation of major pollutants that can be recycled or treated, and the clean effluent discharged.





diences are industrial submitters, EPA personnel, and researchers and other members of the general public. *For more information, contact Dave Schutz at 202-260-8994.*

SMART REVIEW, ETI FOR CHEMICALS

As part of its regulatory review of new chemical substances for health and environmental risks, OPPT also gives industry suggestions on ways of making new chemicals more safely. In 1997, 155 PMNs went through a preliminary SMART Review (Synthetic Method Assessment for Reduction Techniques), and 19 of them were given a more detailed review. Potential solutions were identified for 70 PMNs and their submitters were contacted.

OPPT is developing a computer program of the review process that can be used with existing OPPT databases of green chemistry technologies to allow chemical manufacturers to conduct their own SMART reviews on new chemicals prior to submitting PMNs. *For more information, contact Greg Fritz at 202-260-7174.*

OPPT's Environmental Technology Initiative (ETI) for Chemicals works within the New Chemicals Program to promote risk reduction within industry sectors as a whole, rather than on a case-by-case basis. Funded originally under the government-wide ETI, OPPT's own ETI for Chemicals is encouraging innovation in chemistry, production technologies, and handling and disposal practices, for all chemicals, both new and existing. *For more information, contact Ken Moss at 202-260-3395.*

Product Stewardship

AUTOBODY SPRAY PAINTS

EPA is working with NIOSH, OSHA, and other partners to develop and implement a product

stewardship program for autobody spray paints. EPA has developed product stewardship requirements under TSCA for coatings used during auto refinishing. Coatings manufacturers have begun to reformulate their products to release smaller amounts of volatile organic compounds, as required by the Clean Air Act.

The goals of the project are to reduce risks by (1) improving the use of respiratory protection and innovative engineering controls; and (2) integrate industry reformulation efforts with improvements in worker protection measures during application of coatings.

The project is intended as a model for other use categories with risk reduction potential. During the past year, the partners have developed a draft training outline which will become a standard training module for improving the use of respiratory protection and other means of controlling worker exposure, and integrating these measures with other pollution prevention measures to reduce risk. A voluntary certification program is also under development, and the partners are identifying metrics for measuring improvements over time. *For more information, contact Scott Prothero at 202-260-1566.*

METHYL ETHYL KETOXIME

On July 28, 1997, OPPT signed a Product Stewardship Program (PSP) Memorandum of Understanding (MOU) with AlliedSignal Inc. covering methyl ethyl ketoxime (MEKO), a high production volume chemical used primarily as an antiskinning agent in alkyd surface coatings and paints. The MOU addresses issues such as chemical testing, pollution prevention, waste minimization, exposure reduction, and chemical hazard/risk information communication activities that AlliedSignal has voluntarily agreed to undertake.

AlliedSignal agreed to co-sponsor testing of



MEKO in the international Screening Information Data Set program (see Chapter 3). The company also agreed that steps to reduce and/or eliminate releases of and exposures to MEKO will be included in the company's pollution prevention (P2) program for MEKO operations. In order to measure P2 progress, AlliedSignal will provide annual reports of releases to EPA for the next five years, similar to TRI release information. AlliedSignal also agreed to communicate the "lessons learned" from the company's P2 program to all of its MEKO customers in an attempt to facilitate their prevention practices.

OPPT has now signed four Product Stewardship Program MOUs. The other three cover the diglycidyl ether of bisphenol A, seven alkyl glycidyl ethers (AGEs), and six siloxanes. *For more information, contact Dave Williams at 202-260-3468.*

TSCA Section 4 Testing

Under Section 4 of TSCA, EPA can require producers, importers, and processors to test their chemicals and submit the results of that testing to EPA for review and possible risk management action. Some of this testing is aimed at OPPT's concern with the risks to children from exposure to environmental toxicants. EPA makes testing data publicly available to help the public understand the risks posed by exposure to chemicals and to facilitate public involvement in environmental decision-making.

Since 1979, approximately 550 chemicals have been the subject of testing actions. The actions include formal TSCA Section 4 Test Rules, TSCA Section 4 Enforceable Consent Agreements, and Voluntary Testing Agreements. During FY 1997, 35 TSCA Section 4 studies on 11 chemicals were received by EPA, placed in the public docket, and referenced in EPA's TSCA Test Submissions (TSCATS) electronic database. Cur-

rently more than 300 chemicals are being tested by industry for a variety of health and environmental effects, chemical fate, and exposure monitoring in OPPT's TSCA Chemical Testing Program. Another 200 chemicals are the subject of regulatory or voluntary actions aimed at developing the needed test data. All studies conducted by industry under TSCA Section 4 are performed in accordance with established test methods ("guidelines") and must adhere strictly to EPA's Good Laboratory Practice Standards regulations.

In August 1997 OPPT initiated work on a survey to assess customer satisfaction with the TSCA testing program and to gather information on ways to improve it. The survey will be conducted in 1998. *For more information, access the OPPT Chemical Testing and Information Gathering home page at www.epa.gov/opptintr/chemtest/index.htm or contact Dave Williams at 202-260-3468.*

ENFORCEABLE CONSENT AGREEMENTS AND TEST RULES

During FY 1997, OPPT initiated or developed TSCA Section 4 Test Rules and Enforceable Consent Agreements (ECAs) to require industry to conduct health and environmental effects studies on the chemicals listed below. Most of the chemicals are produced domestically or imported in high volumes and have substantial human or environmental exposure.

Also in FY 1997, OPPT revised the data tables that reflect the results of all final studies received by EPA to date under Section 4 Test Rules and Enforceable Testing Agreements. OPPT is currently exploring a number of options for providing enhanced public access to this information (approximately 600 studies on almost 150 chemicals), including making it available on the Internet. *For more information, contact Gerry Brown at 202-260-7248.*





test data between the U.S. and other countries.

OPPT has published 118 human health, ecotoxicity, environmental fate, and physical chemistry guidelines. OECD has published 55 guidelines in these areas. OPP has 97 test guidelines in these areas as well as 129 pesticide-specific guidelines.

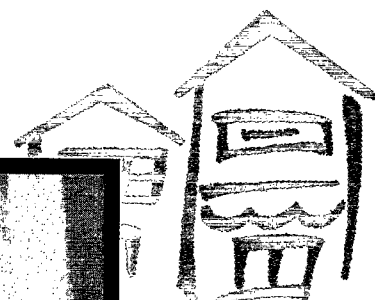
Currently, all of physical/chemical properties and environmental fate guidelines, 30 health effects guidelines, and six ecotoxicity test guidelines have been harmonized between EPA and OECD. Ten health effects guidelines and 13 ecotoxicity guidelines have been harmonized between OPPT and OPP, and some of the new consolidated guidelines incorporate recent significant advances in scientific knowledge and methodologies, particularly in the areas of neurotoxicity, developmental neurotoxicity, and developmental and reproductive biology. They are available to the public through the EPA Internet home page and the Government Printing Office bulletin board. On August 15, 1997, OPPT issued 11 revised TSCA test guidelines (62 FR 43820) resulting from the harmonization effort. *For more information, contact Michael Cimino at 202-260-3451 or Roger Nelson at 202-260-8163.*

MASTER TESTING LIST

A cornerstone of OPPT's TSCA Chemical Testing Program is the Master Testing List (MTL), which compiles the list of chemicals that deserve the highest consideration and warrant testing. The 1996 MTL (issued on December 13, 1996, 61 FR 65936) contains over 600 specific chemicals and more than 15 categories. Virtually all of the listed chemicals and categories are currently undergoing testing or are the subject of testing action development or testing needs development activities. Since 1992, more than 350 chemicals and 4 chemical categories have been added to the MTL and 150 have been removed.

In issuing the 1996 MTL, EPA encouraged responsible companies with product stewardship programs to recognize the importance of promptly filling the cited data needs for chemicals listed on the MTL, on a voluntary basis rather than through rulemaking action. Copies of the 1996 MTL are available through OPPT's Public Docket and TSCA Hotline; an electronic copy can be downloaded from the Internet at www.epa.gov/opptintr/chemtest/index.htm. *For more information, contact Dave Williams at 202-260-3468.*

▼ III. PROMOTING RISK REDUCTION



Georgia Tech Research Institute

Twenty years ago, Congress passed the Toxic Substances Control Act in an effort to understand and address the risks posed by chemical substances to human health and the environment. TSCA gives EPA the authority to regulate the unreasonable risks of a chemical at any stage in a product's life cycle, including its production, importation, processing, distribution in commerce, use, and disposal. Lead, asbestos, polychlorinated biphenyls (PCBs), and dioxin are leading examples of chemicals that warrant attention throughout their life cycle. This chapter reviews OPPT's accomplishments in FY 1997 and the variety of tools used to control the risks associated with these chemicals.

Acrylamide

Acrylamide grouts are used to seal leaks in sewers and manholes and, to a lesser extent, in structural water control and geotechnical applications. Acrylamide is a known human neurotoxicant and has been classified by EPA as a probable human carcinogen. The risk is to grouting workers who are exposed through inhalation and dermal con-

tact to high levels of the substance. These workers face very high individual neurotoxic and cancer risks. The upper-bound estimated lifetime cancer cases arising from grouting exposures is somewhat greater than one in every 100 workers engaged in sewer grouting, and four in every 100 engaged in manhole grouting.

An OPPT regulatory investigation concluded that grouting work entailed exposures that no

▲ Lead abatement.





protective practices short of a ban could reduce to an acceptable level. Based on that study, EPA proposed a rule in 1991 that would have banned all uses of the grout, as well as an alternative grout, N-methololacrylamide (NMA). Since publication of that proposal, further investigation and analysis led EPA to conclude that the cost of banning NMA may outweigh the benefits, and NMA was therefore dropped from the draft final rule.

The decision to leave a viable substitute in place reinforced EPA's effort to eliminate worker exposure to acrylamide; however, it elicited questions regarding the suitability of NMA as a substitute. Accordingly, the rulemaking record was reopened to address these questions. The results of the reopening reaffirmed the decision to ban acrylamide grouts, and the final rule is expected to be published in 1998. *For more information, contact Ed Brooks at 202-260-3754.*

Acute Exposure Guidelines

The 34-member National Advisory Committee for Acute Exposure Guideline Levels for Hazardous Substances brings together public and private sector scientists to develop short-term exposure limits for acutely toxic chemicals. Its goal is to establish scientifically credible acute exposure guideline levels (AEGLs) for 300 to 400 chemicals at the rate of 30 to 40 chemicals per year. Up to 12 AEGLs can be developed for each chemical. AEGLs can be of critical use in dealing with accidental releases of acutely toxic chemicals in the workplace, along transportation routes, and in local communities.

In FY 1997, the Committee's first full year of operation, the Committee developed 176 proposed AEGL values for 17 hazardous substances.

Recently, discussions and meetings have taken place with representatives of the Organization for Economic Cooperation and Development (OECD) as a prelude to the participation of

European countries in the Committee's activities. If this effort is successful, it would represent a major step in establishing a uniform set of short-term exposure limits for a broad range of applications worldwide. *For more information, contact Roger Garrett at 202-260-4302 or Paul Tobin at 202-260-1736.*

Asbestos

Asbestos removal projects in schools and public and commercial buildings are subject to federal regulation by the Occupational Safety and Health Administration (OSHA), EPA's Office of Air and Radiation (OAR), and OPPT under TSCA. OPPT requires schools to inspect their buildings for asbestos, prepare management plans, and ensure that asbestos abatement projects are conducted by properly trained and accredited contractors. OPPT's Asbestos Model Accreditation Plan (MAP) sets forth standards for the training and accreditation.

Both the MAP and OSHA's construction standard for asbestos were amended in 1994-95. EPA and OSHA subsequently became aware of inconsistencies in their regulations, and formed an interagency workgroup to deal with the problem. In 1997, the workgroup produced a tentative plan for resolving the inconsistencies, which calls for EPA to amend its TSCA-based asbestos regulations. During the course of the upcoming rulemaking, EPA will be considering comments and suggestions from stakeholders on ways to streamline and add flexibility to the TSCA asbestos programs.

Since states play a significant role in the administration of the TSCA asbestos programs, EPA held a conference in May 1997 to discuss the potential amendments with the states. Forty states and the District of Columbia sent representatives to the conference, as did the National Conference of State Legislatures and OSHA. *For*

more information, contact Cindy Fournier at 202-260-1537.

Chicago Cumulative Risk Initiative



OPPT takes part in a cooperative effort to address cumulative exposure, hazard, and risk issues affecting residents of Cook County, Illinois and Lake County, Indiana. The effort, called the Chicago Cumulative Risk Initiative (CCRI), has its origins in a 1996 petition from 11 community advocacy groups requesting that EPA regulate air deposits of dioxins, furans, mercury, cadmium, and lead from incinerators in the two counties. The petition was denied but OPPT felt that the environmental justice issues raised called for a more comprehensive, cooperative investigation and response. Members of CCRI include EPA Region 5, the Office of Research and Development; the Office of Air and Radiation; the Office of Environmental Justice; Indiana and Illinois officials; and 11 Chicago-area advocacy groups. CCRI has organized its work into four phases.

Phase I of CCRI involves the development of a cumulative "environmental loading profile" to catalog the source and nature of toxic emissions in the study area. The profile will be finalized during the first two quarters of FY 1998. Phase I also involves the development of a user-friendly, PC-based program that enables users to statistically and graphically analyze emissions and ambient data from the study area. Work is underway to make a nationally applicable program available by the end of FY 1998.

Phase II will bring together interested parties in a workshop (scheduled for third quarter of FY 1998) to discuss and reach accords on the environmental loading profile, the cumulative risk assessment, and customer service issues.

Regional Efforts on Asbestos

Region 10: Video for Asbestos School Coordinators

Even though asbestos regulations have been in place for many years, EPA staff have found widespread misunderstanding and confusion on how to implement the regulations, as well as how to manage asbestos in school buildings to best protect children and others from asbestos exposure. The quality of school asbestos programs depend heavily on the knowledge, dedication, and work of the asbestos management coordinator who is required to be responsible for asbestos-related activities. EPA Region 10 has developed a 19-minute video to help school asbestos coordinators understand their responsibilities, comply with the federal requirements, and protect the health of the school's occupants. Designed to be used in conjunction with the manual, *How to Manage Asbestos in School Buildings: AHERA Designated Person's Self Study Guide* (1996), the video is available through the TSCA Hotline, the National Technical Information Service, and EPA's Public Information Center. For more information, contact Jayne Carlin at 206-553-4762.

Region 7: "New Schools" Initiative

Region 7 has taken a leadership role in the national "New Schools" initiative. This involved a comprehensive review of records and reports to generate a list of schools in the Region that had not submitted asbestos management plans to the governors or delegated agencies. A related outreach effort included compliance and technical assistance to schools that were not knowledgeable of the TSCA requirements, which also helped remind many schools that submitted management plans in 1988 but have since ignored their ongoing responsibilities. As the first phase of obtaining compliance, the initiative has also generated a list of prospective inspections for the future.

Phase III will involve a cumulative risk analysis that addresses the most significant environmental hazards; their sources and exposure pathways; risks of various health effects from multiple exposure sources and pathways; and locations and other characteristics defining sensitive populations. The initial planning phase





has been completed and work has started on methods development.

Phase IV, pollution prevention and remediation activities, is in its initial planning stages. For more information, contact James Boles at 202-260-3969.

Formaldehyde Exposure Testing

Composite wood panels containing urea-formaldehyde (UF) adhesive resins are commonly used as building materials in constructing homes and in manufacturing cabinets and furniture. These materials and products are a significant source of indoor concentrations of formaldehyde, a gaseous chemical that causes irritation of the eyes and respiratory system in humans. Formaldehyde has also been demonstrated to cause cancer in laboratory animals. Formaldehyde emissions from panels used in manufactured (mobile) housing were first regulated in 1984 by the Department of Housing and Urban Development and the panel-producing industry has since adopted voluntary emission standards for their products. However, EPA has been investigating the need for lower emission standards or other controls that would reduce human exposure to indoor formaldehyde concentrations that can cause irritation.

OPPT is currently reviewing peer review comments on results of a cooperative EPA/industry pilot study designed to evaluate methods and techniques of testing formaldehyde exposure in conventionally-built and manufactured housing. In FY 1998, OPPT will complete its analysis of the peer reviewers' comments and refine its indoor air models to account for the pilot study results. A public meeting will then be held to obtain public input on the implications of the results and the need for further ex-

posure testing. *For more information, contact George Semeniuk at 202-260-2134.*

"Human Health Indoors" Policy Initiative

In FY 1997, OPPT embarked on a new Human Health Indoors Policy Initiative in conjunction with EPA's Office of Air and Radiation. The quality of indoor environments is an important environmental health issue. Studies indicate that people spend as much as 90 percent of their time indoors and that indoor levels of many pollutants are often two to five times higher than outdoor levels. Children, the elderly, and those with chronic illnesses, who spend an even greater time indoors, are more susceptible to pollutants than the general population.

Healthy living requires attention to the design, construction, operation, and maintenance of homes, schools, workplaces, and to the proper selection and use of products indoors. To meet future challenges in the protection of human health indoors, the interim Human Health Indoors Policy Committee, co-chaired by the Assistant Administrator for Air and Radiation and the Assistant Administrator for Prevention, Pesticides, and Toxic Substances, will produce a concise action plan that identifies EPA's vision for the 21st century, and establishes goals, guiding principles, research agendas, and program commitments. *For more information, contact Doreen Cantor at 202-260-1777.*

Lead Programs



Exposure to lead can produce serious health effects, particularly in children. Lead poisoning can result in IQ deficiencies, reading and learning disabilities, impaired hearing, reduced at-

tention span, hyperactivity, anti-social behavior, and other problems. Years of using leaded gasoline and lead-based paint have spread this metal liberally throughout the environment. Despite the strides made over the past ten years in preventing childhood lead poisoning, nearly one million children age five and under may still be exposed to lead in the environment.

PUBLIC EDUCATION AND OUTREACH GRANTS

In FY 1997, OPPT initiated a new outreach effort, the Lead Poisoning Prevention and Lead Hazard Awareness Public Education and Outreach Grant Program. Its purpose is to deliver public education and outreach products and services to increase lead-based paint hazard awareness and promote lead poisoning prevention among high-risk target audiences (primarily low-income, minority communities located in large metropolitan areas, or communities which consist predominantly of older housing). Children living in these communities are especially at risk for elevated levels of lead exposure.

Funds totaling approximately \$450,000 will be awarded in FY 1998 for the first round of grants under this program. These grant funds will be used for projects that deliver lead hazard awareness and poisoning prevention information to parents, to care-takers or service providers (e.g., pediatricians) of children under six years of age, and to other vulnerable populations (e.g., pregnant women) in high-risk target audiences. *For more information, contact Megan Carroll at 202-260-7269.*

ONGOING LEAD ACTIVITIES

OPPT works to reduce exposure to lead and the risks of lead poisoning through a variety of ongoing programs alone and in conjunction with the Department of Housing and Urban Development (HUD) and other agencies. Ongoing activities include:

■ *Laboratory Accreditation:* OPPT maintains a National Lead Laboratory Accreditation Program to assure homeowners that laboratory analyses of lead samples are conducted properly. In FY 1997, the program recognized 26 additional laboratories, increasing the total number of accredited lead laboratories to 126. *For more information, contact John Scalera at 202-260-6709.*

■ *NHANES Data:* EPA is setting goals for the lead program for the short and long-term (including national childhood lead poisoning rate goals), and planning programs that focus on the highest risk areas. To this end, EPA is analyzing recent survey data from the Department of Health and Human Services (NHANES 3, Phase 2) which shows declines in blood lead across the U.S. population. This effort is being coordinated with the Centers for Disease Control and other federal agencies. *For more information, contact Dane Screws at 202-260-1562.*

■ *Identifying Paint Hazards, Dust, Soil:* OPPT is working on a proposed rule, as required by Congress, for identifying lead-based paint





STUDIES ON LEAD

- **Renovation and Remodeling Study.** As directed in Section 402 of Title X, EPA has undertaken a study to determine the extent to which renovation and remodeling (R&R) activities may create a lead exposure hazard for building occupants or for the workers themselves. Air and settled-dust samples collected in Phase I of the study showed higher than permissible levels of lead, but blood samples from R&R workers (Phase II) showed little evidence that blood-lead concentrations were exceeding permissible levels. Building occupants, however, may be exposed to considerable amounts of lead in settled dust which far exceeds the current levels in EPA's interim guidance for lead dust. Phase III is examining whether R&R activities are associated with elevated blood-lead levels in children. Phase IV will focus on blood-lead levels in potentially high exposure populations of historic building painters and R&R professionals. Final reports on Phases III and IV will be available within the next year. *For more information, contact Darlene Watford at 202-260-3989 or Dan Reinhart at 202-260-1585.*
- **Laboratory Study of Lead-Cleaning Efficacy.** In the past, EPA has recommended using trisodium phosphate (TSP) detergent to clean lead-contaminated dust from surfaces after residential lead hazard control work to achieve post-abatement clearance standards. However, phosphate detergents have negative impacts on the ecology of aquatic ecosystems. EPA conducted this laboratory study to evaluate the cleaning efficacy of 34 commercially available cleaners in removing lead-contaminated dust from residential surfaces. Based on the results, EPA recommends that either a general all purpose cleaner or a cleaner made specifically for lead should be used for both general cleaning and post-intervention cleaning, rather than water alone. The study also indicates that the effort put into the cleaning may be more important than the choice of cleaner. *For more information, contact Ben Lim at 202-260-1509.*
- **Lead-Based Paint Abatement and Repair and Maintenance (R&M) Study in Baltimore.** This study examined the effectiveness of different levels of repair and maintenance programs in lowering the risk of lead exposure to children. Designed as a longitudinal trial, the study investigated three levels of repair and maintenance (R&M) and outreach to families aimed at reducing children's exposure to lead in paint and settled dust in their homes, as well as two control groups. The costs for R&M work were capped at \$1650, \$3500, and \$7,000 for R&M Levels I, II, and III respectively. All three levels of R&M intervention were associated with statistically significant reductions in house dust lead loadings; however, dust lead concentrations were significantly reduced following intervention in R&M II and III, but not in R&M I. The study provided useful information indicating that certain types of interim controls can maximize benefits by lowering the rate of lead exposure to children at lower costs than comprehensive abatements. *For more information, contact Ben Lim at 202-260-1509.*

hazards, lead-contaminated dust, and lead-contaminated soil. A comprehensive risk analysis and economic analysis are currently under peer review. OPPT anticipates publication of the proposed rule in FY 1998. *For more information, contact Jonathan Jacobson at 202-260-3779.*

- **CD-ROM Project:** OPPT is developing a centralized database of its reports on lead topics, including literature searches, statistical reports, and sampling and analysis reports. The database will be available at EPA and on CD-ROM (along with user documentation) for public dissemination. *For more information, contact Sam Brown at 202-260-2282.*

- **Lead-Based Paint Archives:** The Archive is a collection of real world samples from testing of portable X-ray fluorescence (XRF) instruments (which test the amount of lead in a painted surface). Data are used to produce up-to-date performance information on the instruments. The Archive is currently being turned over to HUD. *For more information, contact Sam Brown at 202-260-2282.*

Regional Initiatives on Lead

EPA's Regional Offices have initiated a number of creative approaches to problems of lead, a sample of which follow:

Region 3: Philadelphia Lead Education and Real Estate Disclosure Compliance

Assistance Projects. Focusing on inner city residents who bear a disproportionate burden of the threat from lead paint, Region 3 has implemented a Landlords Education Strategy to inform otherwise hard-to-reach landlords about the federal and local lead disclosure laws. In community-based lead education



The Story Tree Gang in performance

projects in North Philadelphia (a high-risk area for lead), a group of teenagers called the "Story Tree Gang" educate local residents using puppetry, music, storytelling, etc. Region 3 is working with a variety of local community groups, including Healthy Families/Healthy Homes, the Philadelphia Tenants Action Group, Parents Against Lead, and the Philadelphia Urban Resources Partnership. The region is using Philadelphia as a model to help officials of the District of Columbia expand DC's lead poisoning prevention program. *For more information, contact Gerallyn Valls at 215-556-2084.*

Region 9: Compliance Assistance Outreach for the Real Estate Disclosure Rule.

To ensure that families receive both specific information on the lead history of housing that they are planning to buy or rent and general information on lead exposure prevention, EPA Region 9 conducted extensive outreach to high risk areas, including presentations, mailings, partnerships with local lead poisoning prevention organizations, and federal assistance to other outreach organizations. More than 15,000 copies of lead poisoning prevention materials were developed and distributed in English, Spanish, Chinese, and Vietnamese through dozens of community groups. In a pilot survey in summer 1997, EPA Region 9 found that 86% of prospective tenants and buyers in a northern California area received a lead hazard information pamphlet, and that all real estate offices were utilizing a disclosure form in their sales contracts. While this preliminary study is encouraging, the region is planning an aggressive enforcement campaign to ensure that the public is receiving the required information. *For more information, contact Harold Rush at 415-744-1094 or Helen Burke at 415-744-1126.*





- **Lead-Based Paint Debris Disposal Rule:** HUD, HHS, several states, advocacy groups, and the regulated community have expressed concerns that the costs of testing and disposal of debris containing lead-based paint under RCRA are a significant obstacle to the financing of lead abatement. Stakeholders have also expressed concerns that some waste which contains lead-based paint is not explicitly regulated by RCRA. OPPT (in conjunction with the Office of Solid Waste) is analyzing alternative management and disposal standards which could be issued as a proposed rule under TSCA for lead-based paint debris. OPPT anticipates proposing this rule by early 1998. *For more information, contact Tim Torma at 202-260-4595.*
- **New Training Materials.** In September 1997, EPA and HUD announced a new training program entitled, "Lead-Safe Practices for Building Maintenance Staff." Designed for apartment building supervisors and workers, the program provides instruction in work practices and techniques that can be used to prevent lead hazards when conducting maintenance work in multi-unit rental properties. Program materials incorporate an interactive learning format, including the use of video instruction and tools for training workers onsite. *For more information, contact Jack Primack at 202-260-3407.*
- **State Authorization (Section 402 Rules).** States and tribes have until August 31, 1998 to apply to EPA for authorization to set up their own training, certification, and accreditation requirements (and workplace standards) to ensure the proficiency of contractors who conduct lead-based paint inspections, risk assessments, and abatements in residences and day care centers. Over the next year, OPPT will be working through Regional Offices and the Forum on State and Tribal Toxics

Action (FOSTTA) to help states and tribes develop programs that will meet with EPA approval. OPPT will also be developing a regulation to formally implement the federal implementation program in non-authorized states and tribal lands, and to establish certification and accreditation fees. *For more information, contact Mark Henshall at 202-260-5089.*

- **Buildings and Structures.** EPA is in the process of developing regulations for lead-based activities in buildings and structures. These regulations will be similar to the rules for residences and day care centers; however, they will reflect differences in job structure, type of paint used, building materials and design, and potential for exposure to lead-based paint in the industrial painting sector. EPA held a meeting in September 1997 to gain a better understanding of the industrial painting sector and will continue to gather information on the industry over the next year. EPA expects to publish a proposed rule for public comment in late 1998. *For more information, contact Ellie Clark at 202-260-3402.*

Mercury

MERCURY TASK FORCE

EPA's Mercury Task Force was established so that programs throughout EPA could share information and promote mercury risk management actions. The task force is chaired by OPPTS, Region 5, and the Office of Water. Thus far, the task force has developed an Agency position on the Department of Defense's sales of its holdings of 11 million pounds of surplus mercury; identified the need to investigate protective mercury stabilization technologies for high concentration mercury wastes; raised awareness that a multi-media approach is necessary with mercury issues; and developed a regular forum

for information exchange. *For more information, contact Karen Maher at 202-260-3894.*

MEXICO MONITORING PROJECT

Under the auspices of the North American Commission for Environmental Cooperation, OPPT is involved in the implementation of the North American Regional Action Plan (NARAP) on Mercury. Working cooperatively with the Mexican government, OPPT is assisting in the development of a national monitoring program for mercury and other heavy metals in Mexico. The ultimate goal is for Mexico to use the data obtained from the monitoring program to establish management plans for the prevention or minimization of anthropogenic inputs of mercury and other heavy metals to the environment.

A mine tailings site in Zacatecas, Mexico has been selected as the location for a pilot monitoring project. The pilot will serve as a template for the development of the national monitoring program which will also establish a database for heavy metals. During the course of the pilot, OPPT will be helping Mexico improve its capacity to perform cost-effective sampling and analysis techniques for the monitoring program. In addition, OPPT will support efforts to establish a tri-national comparative database with the United States and Canada. *For more information, contact Greg Susanke at 202-260-3547.*

Polychlorinated Biphenyls (PCBs)

PCBs are mixtures of a certain class of carcinogenic synthetic organic chemicals which are no longer allowed to be manufactured in the United States. OPPT has been working on new disposal regulations — the first comprehensive review of PCB disposal requirements in 19 years — and expects to issue a final rule in FY 1998. The new

rule will lower costs to the regulated community, reduce duplication, and harmonize disposal standards with other federal programs.

To lessen the chances for mismanagement of PCB wastes, OPPT published a rule on March 18, 1996, which harmonized the import requirements for PCBs with all other hazardous wastes and allowed for the import and disposal of PCBs in the United States. On July 7, 1997, the U.S. Ninth Circuit Court of Appeals overturned this rule in *Sierra Club v. EPA*, 118 F.3d 1324 (9th Cir. 1997). The Court concluded that EPA lacked authority to issue the rule under section 6(e)(1) of TSCA. Instead, the Court found that Congress intended for EPA to regulate the import of PCBs under TSCA section 6(e)(3). Section 6(e)(3) bans the manufacture of PCBs (which includes the import of PCBs) unless EPA issues an exemption in response to a petition under section 6(e)(3)(B). Thus, the court found that EPA only has the authority to allow PCB imports, including imports for disposal, by granting exemption petitions. The Agency cannot issue a general rule under section 6(e)(1) allowing import for disposal. EPA is currently assessing the impacts of the decision on the future transboundary management of PCB waste.

Also on the international front, in February 1997, environmental ministers of Canada, Mexico and the United States approved the PCB Regional Action Plan for North America. This plan seeks to achieve the regional goals of virtual elimination of PCBs in the environment, environmentally sound management of existing PCBs throughout their life cycle, and management of PCBs as one element of comprehensive environmental management programs. The three nations are currently working together on the implementation of the action items outlined in the PCB Regional Action Plan. *For more information, contact Peter Gimlin at 202-260-3972 or Tony Baney at 202-260-3933.*





Pesticide Inerts/SAT Review

In FY 1997, OPPT's Structure Activity Team (SAT), a group of in-house expert scientists who evaluate the potential health and environmental hazards of new and existing chemicals, assessed approximately 1,100 chemicals used as inerts in pesticide formulations. To do the assessment, the SAT gathered readily available physical/chemical property and toxicity test information on the chemicals. This information was then supplemented with an analysis of structure-activity relationships. Each chemical was then reviewed in terms of its potential health, environmental, and ecological effects. The Office of Pesticide Programs will use the SAT findings to screen pesticide formulations. *For more information, contact Becky Jones at 202-260-3461.*

Refractory Ceramic Fibers

Refractory ceramic fibers are a probable human carcinogen, and are used in industrial settings, primarily as a lining in high temperature furnaces, heaters, and kilns, where they could pose a hazard to workers. In FY 1997, the Refractory Ceramic Fiber Coalition completed the fourth in a five-year program of worker monitoring. The data show continued reductions in most areas. Once all data have been collected, EPA will work with OSHA and NIOSH to determine whether or not these fibers should be regulated. *For more information, contact Sam Brown at 202-260-2282.*

Relative Risk-Based Environmental Indicators Model

OPPT has developed an environmental indicators model to measure the impacts of TRI chemi-

cals on chronic human health of the general population. This computer-based screening tool permits quick but sophisticated risk-based analyses of TRI release information by a wide array of users, and should promote the public's understanding of risk-related issues. The flexibility of the model also allows for trends analysis, ranking and prioritizing chemicals for strategic planning, risk-related targeting, and community-based environmental protection.

Under development since 1991, the methodology for the indicators model was revised in 1997 and reviewed by the EPA Science Advisory Board. A prototype Windows 95 version of the model is currently being tested. OPPT has pursued a variety of applications of the model in several EPA offices. For example, early analyses of multi-media and air-specific emissions were utilized in the Baltimore Environmental Partnership and welcomed by the community. In another activity, the toxicity weights developed for the indicators were used by OECA in its Sector Facility Indexing Project as a first step in presenting risk-related issues for five industry sectors. OECA's Federal Facilities Office also published a report based in part on risk-related analyses provided by the Indicators model.

OPPT is modifying the Relative Risk-based Chronic Human Health Indicator to allow it to be used in environmental justice evaluations of the distribution of environmental impacts across populations in particular geographic areas. *For more information, contact Nicolaas W. Bouwes at 202-260-1622 or Steven M. Hassur at 202-260-1735.*

Screening Information Data Set (SIDS)

OPPT is working with the Screening Information Data Set (SIDS) Program, a voluntary program operated through OECD, to share the bur-

den of testing high production volume chemicals and assessing their risks. When complete data sets and risk assessments become available, member countries can take consistent action to reduce the risk of chemicals of concern to humans and the environment.

In FY 1997, OPPT peer-reviewed 10 U.S.-sponsored and 15 non-U.S.-sponsored SIDS Initial Assessment Reports. The reports for the 10 U.S.-sponsored chemicals are being finalized.

OPPT took a more active role in chemical selection in FY 1997, informing industry of 92 candidates for U.S. sponsorship and asking sponsors to come forward for about 15. When this approach proved unsuccessful, OPPT informed industry that it would initiate work in-house on 30 chemicals as U.S.-sponsored chemicals if industry failed to sponsor an adequate number. After this announcement, companies began to assume sponsorships, making an EPA in-house effort largely unnecessary. The total number of U.S.-sponsored chemicals initiated in FY 1997 was 28, with 22 of those sponsored by industry. A total of 77 chemicals have been initiated in the OECD SIDS program.

OPPT intends to continue working with U.S. industry to move these chemicals through the process and, in the next year, assist in the selection and induction of additional U.S.-sponsored chemicals into the SIDS Program. The SIDS Program complements OPPT's Chemical Testing Program by saving resources in negotiating testing agreements. Approximately three-quarters of the SIDS assessments are conducted by other countries. Information on completed cases is available through the United Nations' *International Register of Potentially Toxic Chemicals*. For more information, contact Vanessa Vu at 202-260-1243.

TSCA Information Rules



SECTIONS 8(A) AND 8(D) INFORMATION GATHERING RULES

OPPT uses the authority of TSCA Sections 8(a) and 8(d) to require chemical producers, importers, and processors to submit unpublished health and safety data and exposure data to EPA. OPPT usually issues these rules at the request of the TSCA Interagency Testing Committee.

During FY 1997, and in response to the Clinton Administration's call for "reinventing government," OPPT completed work on major revisions to its TSCA Section 8(d) health and safety data reporting rule. The revisions, scheduled for publication in early FY 1998, are expected to result in substantial cost savings for industry as well as EPA. Specifically, the revisions involve the types of studies and the grade/purity of each substance for which reporting is required, the length of the reporting period, and the adequacy of the file search needed by industry to comply with the requirements of Section 8(d). For more information, contact Keith Cronin at 202-260-8157.

INVENTORY UPDATE RULE AMENDMENTS

The Inventory Update Rule (IUR) updates the TSCA Chemical Substances Inventory every four years by collecting basic production information for about 9,000 chemical substances with high production volume (10,000 pounds or more annually). This information helps EPA screen chemicals based on their relative risk potential and set national priorities for more in-depth risk assessment and risk management activities.





During FY 1997, the IUR workgroup finalized its technical and economic analyses for proposed amendments to the IUR. Proposed amendments to the IUR (originally called the Chemical Use Inventory) will adjust thresholds and exemptions, add exposure-related information, and make some basic administrative and confidential business information (CBI) changes. The amendments are expected to enhance the effectiveness of current and future data, reduce CBI claims, and support private sector stewardship efforts. A draft rulemaking package is scheduled for Agency review in the second quarter of FY 1998; IUR amendments are expected to be proposed in the *Federal Register* in Spring 1998. *For more information, contact Susan Krueger at 202-260-1713.*

SECTION 8(E) CAP SUBMISSIONS

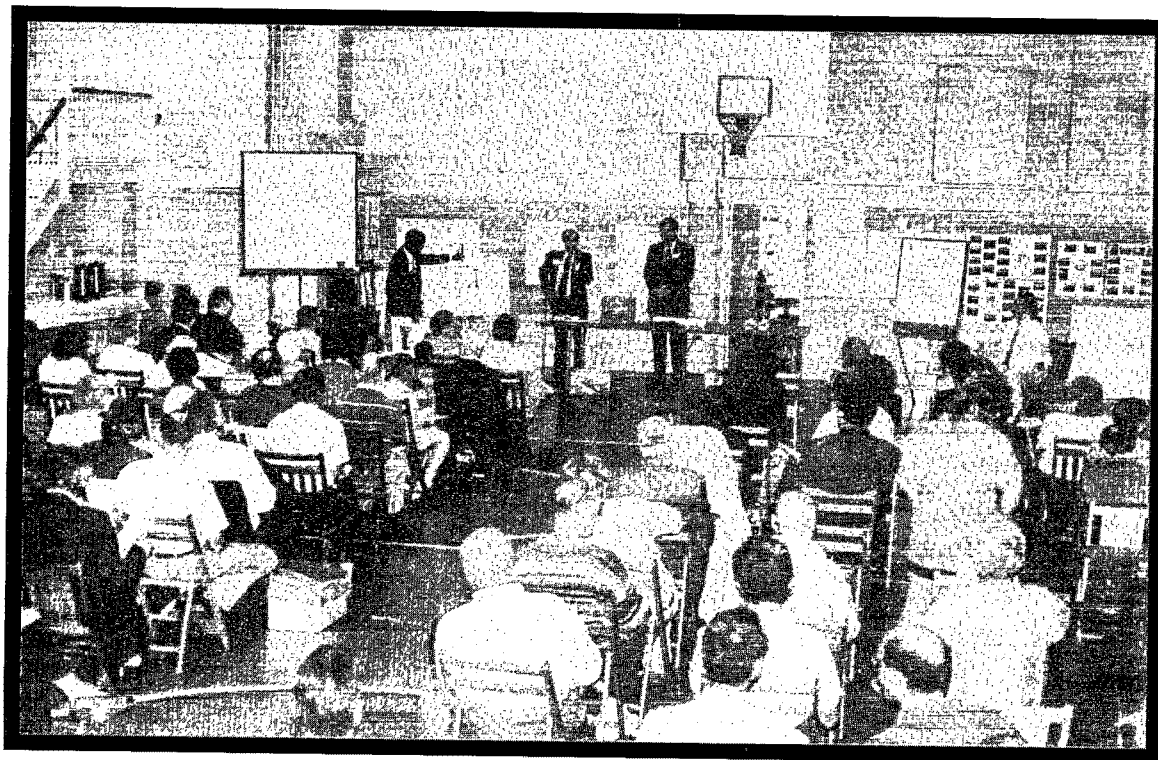
TSCA Section 8(e) requires anyone with information that a chemical presents a "substantial risk" of injury to health or the environment to report that information to EPA. Between 1978

and 1992, the Agency received approximately 1,350 new 8(e) submissions. A voluntary Compliance Audit Program (CAP) in 1992 stemming from an enforcement case produced 10,522 new 8(e) submissions. To handle this large increase in submissions, OPPT developed a triage-based screening process. Results of the screening are recorded in the 8(e) triage database, which is publicly available. During 1997, OPPT completed an initial screening of 300 submissions. This included both new submissions and the remaining TSCA 8(e) CAP submissions.

OPPT will continue to screen and share information submitted under TSCA 8(e) and its voluntary analog, FYI (For Your Information) submissions. The volume of submissions is highly variable, but it is estimated that 200 to 300 8(e) and FYI submissions will require screening annually. OPPT is working with industry to develop an electronic format for 8(e) and other TSCA reporting requirements. A quality assurance review of the most recent version of the 8(e) triage data base is expected to be completed in FY 1998. *For more information, contact Terry O'Bryan at 202-260-3483.*



▼ IV. PROMOTING PUBLIC UNDERSTANDING OF RISKS



Recognizing that public information is a vital link in improving public health and environmental protection, OPPT continues to find innovative ways to promote public understanding. This chapter discusses OPPT's efforts to empower the public with information, form partnerships, increase public awareness, and improve data quality and access with the intention of encouraging greater and informed public involvement in decision-making.

In meeting this goal there is no more valuable resource than the Toxics Release Inventory, a publicly available, annual inventory maintained by OPPT. TRI is a database of toxic chemical releases and transfers from manufacturing and federal facilities nationwide. TRI was established by the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) which promotes planning for chemical emergencies and the public's right to know about toxic and hazardous chemicals in their communities. Over the years, TRI has evolved into one of the most widely-used and action-motivating information resources in the environmental arena.

Public empowerment has also received a boost from the widespread availability of information on the Internet. OPPT has devoted considerable time over this past year to building and expanding its coverage on the World Wide Web, and continues to work on making databases and other types of information available through the Internet.

FY 1997 also saw the conclusion of the 33/50 Program, which exceeded its goal of spurring significant reductions in toxic releases by participating companies. During this past year, the Ford

▲ Public meeting
of the South
Baltimore
Environmental
Partnership





Foundation and Harvard University recognized the 33/50 Program in their *Innovations in American Government* program, highlighting it as among "the best that American government has to offer" and one of the nation's leading examples of government reinvention.

Children's Health Initiative

OPPT has made great strides in protecting children's health. In conjunction with OPP, a Strategy on Environmental Health Threats to Children was developed which describes our commitment and plan to implement EPA's *National Agenda To Protect Children from Environmental Health Threats*. Over the years, OPPT has worked to improve our understanding of the risks posed to children by environmental chemicals. A major accomplishment has been the development of new test guidelines to assess prenatal toxicity and reproductive toxicity.

An interagency workgroup began to generate these guidelines in the early 1990s under the leadership of OPPT and OPP. Originally, the prenatal toxicity test was designed to assess potential toxicity to a developing organism only during the embryonic stage of development. This guideline has now been modified to include exposure during the fetal stages as well. The repro-

ductive toxicity test was designed to detect effects from both prenatal and postnatal exposures over two generations. This guideline has been modified to include a more thorough assessment of the reproductive and immune systems, growth and development, sexual maturation, and senescence. The guidelines were also modified to include endpoints for the detection of endocrine disruptors and some neurological endpoints that will trigger a decision on the appropriateness of conducting a separate and more thorough developmental neurotoxicity test.

The prenatal and reproductive toxicity guidelines were finalized in FY 1997. They will be harmonized with similar efforts by OECD. For more information, contact Jennifer Seed at 202-260-1301.

Community Environmental Partnership

The South Baltimore Community Environmental Partnership is OPPT's first "hands-on" project to identify more effective ways to address environmental issues by enabling communities to take the lead in decisions that affect their local environment. In May 1996, OPPT and the Region 3 Office joined with local Baltimore residents, business representatives, and state and local government officials to start a community-based approach to environmental protection for South Baltimore and Northern Anne Arundel County. This project is taking place in a working class, heavily industrialized area that includes the neighborhoods of Cherry Hill, Brooklyn, Brooklyn Park, Curtis Bay, and Wagner's Point.



The partnership opened an office in the community (March 1997), selected a new executive leadership committee (May 1997) which provides more day-to-day leadership and management capabilities, and is in the process of applying to become a non-profit organization. Non-profit status will allow the partnership to apply for the grant and foundation money necessary to maintain a strong presence in the community. In April 1997, four working committees (Economic Development; Trash, Illegal Dumping, and Housing; Human Health Effects; and Water Quality, Parks, and Natural Resources) presented their preliminary findings and recommendations for action. A fifth committee, the Air Committee, is working hard to complete its assessment of the community's air quality and to finish its plan for action. Currently, the committees are conducting environmental education workshops and a variety of community clean-up activities.

Building consensus in a community is not easy, but the Baltimore project is moving forward. Ultimately, this project will serve as a model for other communities addressing their environmental and economic concerns. *For more information, contact Hank Topper at 202-260-6750.*

Confidential Business Information

ACCOUNTABILITY

OPPT receives and manages a large amount of confidential business information (CBI) on the thousands of toxic chemicals in its purview. Protecting this material from unauthorized disclosure is a major priority for the office. In FY 1997, OPPT undertook several major efforts to improve TSCA CBI accountability. OPPT examined the processing and review functions of the pro-

gram thoroughly and developed an action plan for program improvement. OPPT conducted a complete analysis of the CBI tracking system — focusing on system stability, integrity, and overall data management capabilities. OPPT staff have also investigated other data management systems and conducted onsite testing of alternative tracking systems in Fall 1997.

Audits were done on more than a half million CBI records covering all CBI received by the Confidential Business Information Center (CBIC) between October 1993 and December 1996. CBIC is the official point of receipt, distribution and storage for TSCA CBI documents. Additional audits are being conducted to cover the CBI received by EPA for FY 1997. Continuing in FY 1998, frequent audits will be conducted to ensure that the new document accountability and protection measures are remaining effective.

As a result of a probe into CBIC's accountability procedures, OPPT initiated an internal CBI "data call-in" which gave OPPT staff a chance to assess their continuing need to retain CBI in secure work areas. *For more information, contact Deborah Williams at 202-260-1734.*

STATE ACCESS PROJECT

Despite the important role states play in environmental and public health protection, they do not always have available the scientific health and safety data necessary to make the best possible chemical management decisions. A four-state pilot project conducted in 1995 offered the states of New York, Georgia, Illinois, and Wisconsin access to all TSCA-derived data, including CBI. The states reported that the data were not available elsewhere, would improve chemical management goals, and could provide the basis for regulatory relief to industry. Both states and industry trade groups have urged EPA to make TSCA data, including CBI, more widely available to states.





Over the past year, OPPT has been developing a vehicle by which states will routinely secure access to all TSCA data. OPPT expects this vehicle to be in place in 1998. *For more information, contact Scott M. Sherlock at 202-260-1536.*

Consumer Labeling Initiative



The goal of the Consumer Labeling Initiative is to foster pollution prevention, empower consumer choice, and improve consumer understanding of safety, environmental, and health information on household consumer product labels. Initial efforts focused on indoor insecticides, outdoor pesticides, and household hard surface cleaners, including antimicrobial and floor, basin, tub, and tile products. This is a multi-phase pilot project done in partnership with local, state, and federal agencies, manufacturers of consumer products, trade associations, public interest groups, market research experts, and others.

FY 1997 saw the first label improvements announced under the program for pesticide product labels. These included:

- Changing label headings to replace the term "inert" with "other ingredients";
- Replacing the heading "Statement of Practical Treatment" with "First Aid;"
- Using common names instead of the complex, formal chemical names of ingredients; and
- Putting toll-free emergency telephone numbers on all pesticide product labels. EPA's National Pesticide Telecommunications Network number can be used by small companies that cannot afford to maintain their own hotlines.

Also announced in FY 1997 was a one-year effort to identify the best way to communicate mean-

ingful information on product ingredients to consumers, and to convey useful storage and disposal information that takes into account local differences in recycling and household waste management programs. Industry partners launched a major consumer research program to learn how consumers interact with labels. *For more information, contact Mary Dominiak at 202-260-7768; Julie Lynch (202-260-4000); Amy Breedlove (703-308-9069); or Jean Frane (703-305-5944).*

Customer Service Standards

OPPT has undertaken several customer service projects in concert with the goals of Executive Order 12862 "Setting Customer Service Standards," which requires the government to be held accountable for the quality of products and services it provides to the public. By implementing customer service standards and by conducting surveys, focus groups, and using other feedback tools, OPPT is seeking to continually improve its information products and services.

The Office of Management and Budget (OMB) has approved EPA's request to assess customer satisfaction with EPA's Partnership Programs. Over the next three years, several programs will use feedback cards to collect information on how well, and with what degree of courtesy, the public's needs are being met. *For more information, contact Darlene Harrod at 202-260-6904.*

Currently, OPPT is using a mail-out survey to evaluate customer satisfaction with OPPT and OPP docket services. A telephone survey is also underway to evaluate customer service on the Toxic Release Inventory-User Support (TRI-US) hotline. Based on the survey results, OPPT will consider making changes to TRI-US, including changing the kinds of information products made available to users. OPPT will also decide on an



ongoing means of gathering customer feedback. For more information, contact Georgianne McDonald at 202-260-4182.

Electronic Access and Software Development

ECOSAR SOFTWARE

OPPT is working on a new version of the ECOSAR software program that predicts the environmental toxicity of chemicals to aquatic organisms using structure activity relationships (SAR). The new version, due out in 1998, will be much more user-friendly. Users will no longer need a working knowledge of organic chemistry and the SARs used by OPPT. Instead, they can simply input a chemical's structure or its Chemical Abstract Service Registry Number. ECOSAR will analyze the chemical structure and select the SARs that OPPT would use in assessing the chemical. A toxicity profile for the chemical will be printed automatically. The new ECOSAR will include new and updated SARs, and can be used in a Windows configuration. For more information, contact Gordon Cash at 202-260-3900 or Vince Nabholz at 202-260-1271.

ELECTRONIC SUBMISSION OF TSCA DATA

OPPT is pursuing a voluntary program for electronic submissions to facilitate reporting, allow for quicker public access, reduce industry compliance costs, reduce the likelihood of error in inputting data, and conserve valuable Agency data handling and storage resources. Biweekly meetings were held with industry in FY 1997 and three pilot projects were conducted in the areas of export notifications, premanufacture notifications, and test submissions to explore issues of data security, data integrity, and authenticity.

Draft standards are being developed based on experience from the pilots and will be presented at a public meeting in FY 1998. Once standards are discussed and revised, EPA will announce them in the *Federal Register* and invite industry to voluntarily submit TSCA data electronically. The first such notice is scheduled to appear in early 1998. For more information, contact John Nowlin at 202-260-8918.

WASTE MINIMIZATION PRIORITIZATION TOOL

The Waste Minimization Prioritization Tool (WMPT) is a Windows-based software program that provides a screening-level assessment of the persistence, bioaccumulation potential, and toxicity of chemicals. The software allows users to rank the long-term risks of chemicals, taking into account chemical quantities, and thus set priorities for source reduction and recycling. A joint product of EPA's Office of Solid Waste (OSW) and OPPT, WPMT currently ranks about 900 chemicals and has additional data on 3,800 other chemicals.

When finalized, the WMPT will be a tool that can help promote understanding of health risks by empowering the public with information on the relative hazard of chemicals to which they are exposed. A beta-test version of the WMPT and User's Guide were available for public comment through October 7, 1997. The Office of Solid Waste and Emergency Response's (OSWER's) home page has received several thousand inquiries related to the WMPT since the system was posted. Future enhancements to the system will be made in response to public comments. Possibilities include such features as consideration of photolysis/hydrolysis, additional exposure information, and toxicity data. An updated version of the WMPT and User's Guide will be issued in July 1998. The system is





available through the RCRA Hotline (800-424-9346) or can be downloaded from OSWER's home page (www.epa.gov/epaoswer/hazwaste/minimize). For more information, contact Jay Jon (OPPT) at 202-260-7971 or Mark Ralston (OSW) at 703-308-8595.

Facility Identification Initiative

The Facility Identification Initiative is a project to streamline the collection of identifying information from facilities subject to federal environmental reporting requirements. Identifying information generally includes such elements as name of the facility, address, parent company, and contact person. The goal of the initiative is to provide states, environmental interest groups, the regulated community, and the general public with easier access to the environmental data submitted by federally regulated facilities. OPPT proposed this initiative based on recommendations from a 1994 National Advisory Council for Environmental Policy and Technology task force report on improving Agency information resources management.

In Spring 1997, an EPA working group was formed to implement the initiative. A separate state working group was established under a cooperative agreement with the Environmental Council of the States. By December 1997, the two working groups were expected to determine a mutually acceptable set of EPA/state business practices and data standards by which any state may assume the primary role of facility data manager with the goal of establishing a national facility linking file. For more information, contact Diane Sheridan at 202-260-3435.

Pollution Prevention Assessment Framework



In FY 1997, OPPT and EPA Region 9 developed the Pollution Prevention Assessment Framework, a compendium of structure activity-based risk assessment methods for chemicals that have little or no hazard data or exposure data. The compendium includes case studies that show how to conduct screening-level risk assessments and identify pollution prevention opportunities. OPPT and Region 9 conducted a three-day workshop in October 1997 in San Jose, CA to test and further disseminate the framework. Response to the workshop has been strong from states, public interest groups, and industry. For more information, contact Bill Waugh at 202-260-3489 or Don Rodier at 202-260-1276.

Toxics Release Inventory (TRI)



TRI celebrates its tenth year in operation in 1997. TRI provides information to the public on releases and other waste management information for more than 600 chemicals and chemical categories from certain industry sectors. With this information, communities know what toxic chemicals are present in their neighborhoods, and facility managers can identify opportunities for source reduction and compare their progress to other facilities around the country.

The TRI program has been a huge success in many ways, even serving as a model for countries around the world (see section on PRTRs on page 56). Facilities report their TRI information annually to EPA and the state in which they are located. The information includes the amounts of each listed chemical released to the environment at the facility; amounts of each chemical shipped off-site



for recycling, energy recovery, treatment, or disposal; amounts of each chemical recycled, burned for energy recovery, or treated at the facility; and maximum amounts of the chemical present on-site at the facility during the year. EPA has developed numerous publications and resources for easy access to TRI data; additional handbooks are in development as well. (See Information Resources at the end of this document for details.)

TRI has undergone a series of expansions, beginning in 1994 with a doubling of the number of chemicals on the TRI list for which reporting is required, followed in 1997 with the addition of seven industries required to report releases to TRI, and now with consideration of a "Phase 3" expansion to require chemical use data to be reported. In FY 1997, EPA went to court for the second time in two years to defend the addition of 286 chemicals to the TRI list. On August 1, 1997, the U.S. Court of Appeals for the District of Columbia Circuit affirmed the judgment of the U.S. District Court for the District of Columbia which had upheld EPA's TRI chemical expansion decision. The Court of Appeals remanded EPA's decision on only two of the 286 chemicals.

FACILITY EXPANSION

Announced by Vice-President Al Gore on Earth Day 1997, EPA issued a final rule requiring approximately 6,100 facilities in seven additional industries to begin TRI reporting. The new industries added are:

- Metal mining
- Coal mining
- Coal and oil-fired electric generating facilities
- Commercial hazardous waste treatment and disposal facilities
- Chemical wholesale distribution facilities
- Petroleum bulk terminals and bulk plants
- Solvent recovery facilities.

The newly added industries will be subject to TRI reporting requirements beginning on January 1, 1998 and their first TRI reports will be due on or before July 1, 1999. *For more information, contact Tim Crawford at 202-260-1715.*

AUTOMATED FORM R (AFR)

One of OPPT's goals in administering the TRI program is to simplify reporting while still collecting the required data. The availability of Automated Form R (AFR) reporting software is helping to meet that goal.

AFR software allows facilities the option of creating TRI reports on their own computers and sending EPA a floppy disk rather than filling out printed forms. This is usually easier for the facility and eliminates rekeying of the data by EPA. The results are faster processing, fewer data entry errors, and improved data quality. Since its inception, the program has grown in popularity. Now, in addition to a growing number of facilities using the software, more and more states (which also receive TRI data) are accepting floppy disks created by AFR software instead of printed forms.

In 1997, in response to demand, OPPT distributed AFR for Windows software to all TRI facilities (a DOS version was available on request). AFR software (both Windows and DOS versions) were also available for downloading from the TRI home page on the Internet (www.epa.gov/opptintr/formr.htm). The Web site was especially helpful in communicating with TRI facilities during the reporting period. It enabled OPPT to post improved versions of the software, more detailed instructions, and answers to frequently-asked questions. Facilities were also able to communicate their questions directly to the EPCRA Reporting Center using e-mail over the Internet.

Beginning with the 1995 reporting year, certain facilities reporting to TRI were eligible to





submit a simplified reporting form called Alternative Form A instead of Form R. Approximately 3,000 facilities took advantage of this reporting option, reducing the total reporting burden for industry by 113,000 hours. *For more information, contact Jan Erickson at 202-260-3801.*

1995 TRI DATA

The most recent TRI data — from reporting year 1995 — include, for the first time, information on the 286 chemicals added to the TRI in 1994. Releases for the newly added chemicals totaled 237.7 million pounds, approximately 10 percent of total TRI releases. The newly added chemicals have all been assessed at moderately high to highly toxic.

Figure 1 shows the air, water, and land distribution of the 2.2 billion pounds of all TRI chemicals released in 1995. Figure 2 illustrates the trend in the amount of releases reported, 1988-1995. Figure 3 shows the disposition on-site and off-site of wastes managed in 1995.

Toxic chemical releases declined 4.9 percent from 1994 to 1995. Releases to air decreased by almost seven percent, but releases to underground injection wells increased a dramatic 19.5 percent. Since 1988, overall reported releases have declined by 46 percent. (See Figure 3.)

The amount of toxic chemicals in waste generated by facilities increased 3 percent from 1994 to 1995, continuing the trend of increased generation of production-related waste (up 6.8 percent from 1991 to 1995). Facilities expect little or no progress in reducing the generation of waste over the next two years.

Future TRI data will be even more useful because it will include information on seven additional industry sectors added in April 1997. These industry sectors have significant releases of TRI chemicals and directly support manufacturing activities currently covered under TRI.

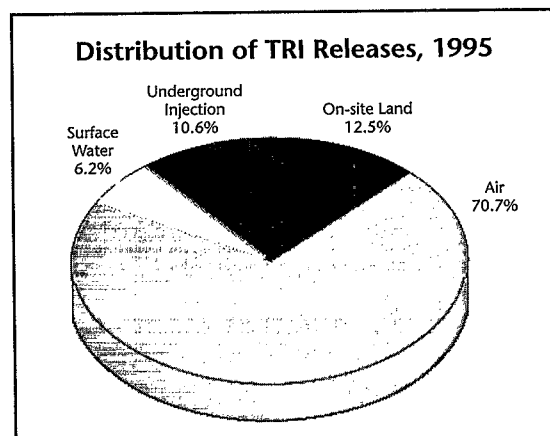


Figure 1

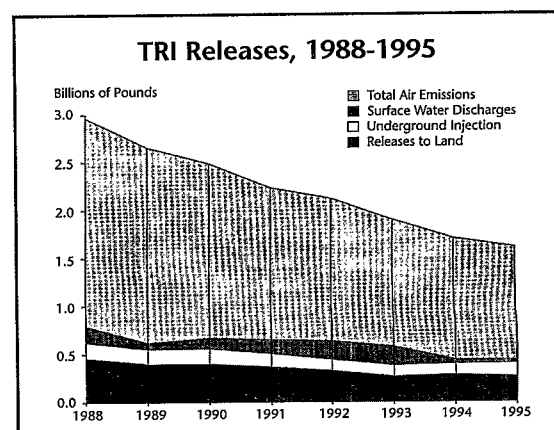


Figure 2

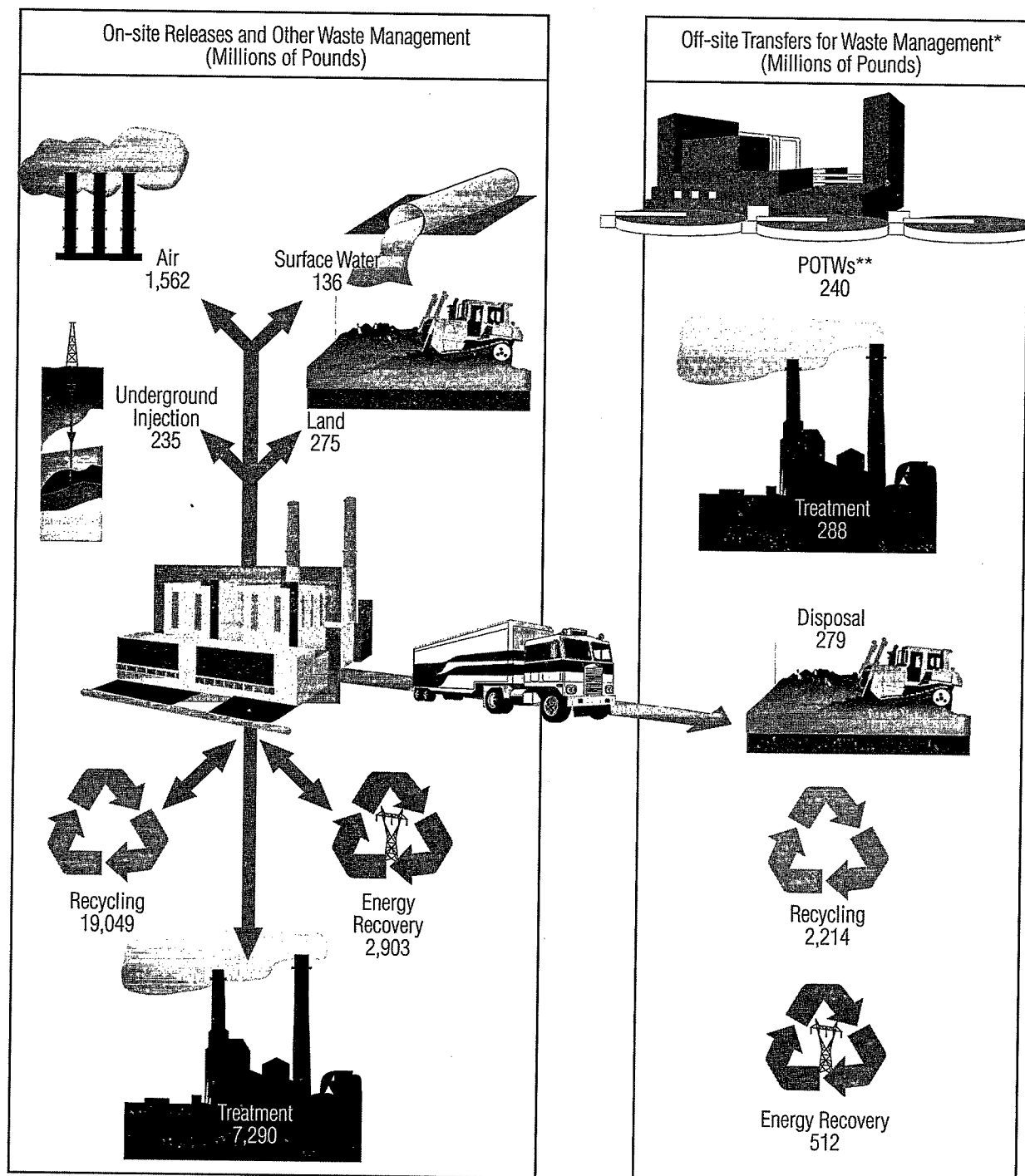
This expansion is expected to spur reductions in chemical releases in these industry sectors, similar to TRI's effects on other manufacturing sectors. These facilities must make their first reports to TRI by July 1, 1999; the information will be available to the public in 2000.

CHEMICAL USE DATA — TRI PHASE 3 EXPANSION

The addition of chemical use information represents Phase 3 of TRI expansion. EPA has been actively exploring the utility of chemical use data to public decision making. Use data could expand the public's ability to evaluate a range of important environmental issues in more depth than is



Figure 3
Community Right-to-Know 1995 Toxics



* 2.4 million pounds were reported without valid waste management codes

** Publicly owned treatment works

0257W-10





currently possible. An Advanced Notice of Proposed Rulemaking (ANPR) was published on October 1, 1996, as part of EPA's response to President Clinton's directive to develop "an expedited, open, and transparent process for consideration of reporting under EPCRA on information on the use of toxic chemicals at facilities, including information on mass balance, materials accounting, or other chemical use data." The ANPR announced EPA's intentions to develop a proposed rule in response to this issue, provided background information on chemical use and materials accounting information, listed preliminary data elements, explained how the project relates to other Agency and Administration priorities, and included over 30 questions for feedback and comments.

OPPT held three public meetings in October and November of 1996 to listen to the public about the issue of chemical use reporting. Five days of well-attended meetings were held in Boston, Baton Rouge, and Washington, DC. Over 40,000 comments were received by the time the comment period for the ANPR closed at the end of February 1997.

OPPT has reviewed the comments and issues, has reviewed the experience of two state programs (Massachusetts and New Jersey) that already collect chemical use information, and is continuing to evaluate a number of other issues. OPPT believes that chemical use data could improve EPA's ability to evaluate facility source reduction and pollution prevention performance, focus emergency planning efforts related to the transportation of chemicals through communities, provide a handle on the amounts of toxic chemicals going into products, and contribute to improvements in worker safety and health. EPA is currently looking at options for chemical use reporting, and a decision on how best to proceed is expected by early 1998. *For more information, contact Matt Gillen at 202-260-1801.*

POLLUTANT RELEASE AND TRANSFER REGISTERS

The dramatic success of TRI in the United States in making emissions information available to the public on a facility-specific and chemical-specific basis has led other countries and international organizations to work toward the implementation of similar systems, known internationally as Pollutant Release and Transfer Registers (PRTRs).

Since PRTRs were highlighted at the 1992 Earth Summit as effective tools for managing chemicals, OPPT has been an active participant supporting several international projects, including OECD's development of a PRTR Guidance for Government Manual; a Council Recommendation by the Environment Ministers of the 26 OECD nations calling on member states to implement PRTR systems that include community right-to-know; a study of industries that report to PRTR systems; and a PRTR Conference in Japan scheduled for 1998.

OPPT has supported efforts of the United Nations Institute for Training and Research (UNITAR) working with industrializing nations and regional organizations on PRTR development. Pilot projects in Mexico, Czech Republic, and Egypt should begin yielding results in the next year; Mexican industries in the state of Queretaro, for example, will be required to report emissions to the PRTR for the 1997 reporting year. OPPT is also assisting the North American Commission for Environmental Cooperation in preparing its next annual report comparing U.S. and Canadian PRTR data.

In 1997, PRTRs and their role in effective chemicals management were again highlighted on the fifth anniversary of the Earth Summit. As the number of countries with PRTRs is expected to grow from the present six to more than 30 in the next few years, the U.S. experience has

offered other countries a broad array of options and resources, including industry training and guidance manuals. OPPT's expertise and financial support have been essential ingredients in promoting PRTRs that are publicly accessible and multi-media. *For more information, contact John Harman at 202-260-6395.*

USES OF TRI DATA

OPPT is collecting and sharing information on TRI's uses in enhancing public awareness of potential risks posed by toxic chemicals released into the environment by industrial facilities. These success stories (see box for examples) can offer useful ideas to other communities. In the past 10 years, TRI has spawned a number of similar state and local programs as well as various organizations that promote the use of TRI data. More than 1,500 community groups use TRI data in their dealings with local government and industry. Also, EPA is working with 86 cities to institute a network to collect and disseminate information to the public regarding chemical releases to air, water and land. *For more information, contact Marla Hendriksson at 202-260-8301.*

OPPT is also developing a community handbook and user's manual, forthcoming in 1998, that will provide more assistance to the public in using TRI data and understanding each data element on the TRI reporting form. *For more information, contact John Harman at 202-260-6395.*

Tribal Program

OPPT is committed to working in partnership with Native American Tribes to foster effective communication and establish an environmental program for Tribes that promotes pollution prevention and protects the environment and human health. OPPT has formed a Committee on Native American Tribal Issues and desig-

nated a Tribal Coordinator. During FY 1997, emphasis was placed on increasing Native American participation in the Forum on State and Tribal Toxics Action (FOSTTA). A representative of a tribe was named Chair of the Tribal Affairs Workgroup. Tribal officials also participate in the Pollution Prevention Project and ro-

TRI Data Use Success Stories

Highlighted at TRI/RTK Conference

The September 1997 Toxics Release Inventory/Right-to-Know Conference held in Washington, DC was the largest TRI conference to date and the first time in which right-to-know was highlighted. EPA Administrator Carol Browner, Assistant Administrator Lynn Goldman and Region 3 Administrator Michael McCabe provided keynote addresses. Examples of how TRI data have been successfully used were presented at the conference, including the following:

- **Industry:** Rhone-Poulenc, ranked the 6th largest chemical company worldwide, openly embraced TRI for creating community dialogue, forcing industry to focus on risk issues, and providing a method for measuring progress. Since the company began reporting to TRI, it has reduced toxic emissions by 50 percent and is recycling 90 percent of the chemicals it uses.
- **States:** Examples of states that have recently instituted TRI-based initiatives include Tennessee and Louisiana, two states with a large number of industrial facilities. Tennessee's 2000 Initiative on air pollution emphasizes industry outreach and has experienced an increased participation of local facilities. Louisiana's Environmental Leadership Program targets the local chemical industry and stresses voluntary reductions of emissions beyond compliance.
- **Advocacy:** Grassroots groups and non-profit organizations have, in the past, successfully lobbied for state laws such as the Toxics Use Reduction Act (Massachusetts) and a Toxics Right-to-Know charter amendment (Oregon). Don't Waste Arizona, Inc. successfully sued facilities for failure to comply with EPCRA. Instead of paying fines to EPA, court judgments required companies to apply payments toward facility improvements.





tate participation in FOSTTA's Lead Project.

In Spring 1997, OPPT conducted a survey of other EPA offices to identify effective programs beneficial to tribes and to determine if a Tribal Program Proposal could be prepared for FY 1998. Options developed were commented on by tribal representatives from the EPA Regions, the American Indian Environmental Office, the National Indian Workgroup, the Tribal Operations Committee, and various members of Native American tribes. The proposal is currently being finalized and the selected options for FY 1998 will be adopted.

Also for FY 1998, OPPT plans to design a special communications package for Native American Tribes that incorporates computer access and promotes dialogue and coordination with other federal agencies involved with lead testing and awareness programs on tribal lands. OPPT and the Office of Pesticide Programs will be coordinating and developing a Tribal Training Program in FY 1998 to ensure that OPPT employees have the necessary knowledge of, and sensitivity to, Native American history, culture, and laws. *For more information, contact David Piantanida at 202-260-2983 or Mary Lauterbach at 202-260-9563.*



OPPT PUBLICATIONS IN FY 1997

DESIGN FOR THE ENVIRONMENT PUBLICATIONS

Available on the DfE Web
site at www.wpa.gov/dfe

- Case Study #6: Printed Wiring Board Project: Pollution Prevention Beyond Regulated Materials, EPA/744/F-97/006, 4 pages, May 1997.
- Cleaner Technologies Substitutes Assessment: A Methodology and Resources Guide*, EPA/744/R-95/002, 540 pages, December 1996.
- Design for the Environment Project Releases Direct Metalization Performance Results, 6 pages, January 1997.
- Dry Cleaning Fact Sheet, EPA/744/F-93/004, 2 pages, June 1997.
- Flexography Project Case Study #1: Reducing VOCs in Flexography, EPA/744/F-96/013, 4 pages, March 1997.
- Flexography Project Case Study #2: Learning from Three Companies that Reduced VOC Emissions, EPA 744/F-96/016, 4 pages, June 1997 (also available in Spanish).
- Implementing Cleaner Technologies in the Printed Wiring Board Industry: Making Holes Conductive*, EPA/744/R-97/001, 60 pages, February 1997.
- Making the Most of Your Cleaning Business: Dry Cleaning/Wet Cleaning Case Studies and Financial Analysis Work Sheets (Draft)*, 54 pages, March 1997. The two factual case studies and financial analysis worksheets in this document can assist U.S. commercial dry cleaners in assessing their options to minimize or eliminate perc waste and emissions.
- Lithography Project Bulletin #3: Vegetable Ester Blanket Washes, EPA/744/F-96/014, 4 pages, October 1996.
- Lithography Project Bulletin #4: A Worksheet to Help You Choose A Better Wash, EPA/744/F-96/015, 6 pages, October 1996.
- Printed Wiring Board Case Study 5: A Continuous-Flow System for Reusing Microetchant, EPA/744/96/024, 4 pages, December 1996.
- Printed Wiring Board Cleaner Technologies Substitutes Assessment: Making Holes Conductive, Volume 1*, EPA/742/R-97/002a, 423 pages, June 1997; *Volume 2*, EPA/742/R-97/002a, 402 pages, June 1997. These documents present the evaluation of six formaldehyde-free alternatives to the standard electroless copper process for performing the making holes conductive function during the manufacture of printed wiring boards.
- Resource Guide for Garment and Textile Care Professionals*, EPA/744/K-96/004, 15 pages, September 1997.

Unless otherwise indicated, to order, contact:

Pollution Prevention Information Clearinghouse, tel: 202-260-1023, fax: 202-260-0178,
or order directly from www.epa.gov/opptintr/p2home/ppicdist.htm



Screen Printing Project Publication List, EPA/744/F-96/021, 8 pages, March 1997.
Training Curriculum for Alternative Clothes Cleaning & Instructor's Manual, EPA/744/R-97/004a, 114 pages, May 1997; EPA/744/R-97/004b, 180 pages, May 1997.
Wet Cleaning, EPA/744/K-96/002, 16 pages, May 1997.
Your Screen Reclamation System, EPA/744/F-96/023, 4 pages, May 1997.

ENVIRONMENTAL COST ACCOUNTING PUBLICATIONS

Applying Environmental Accounting to Electroplating Operations: An In-Depth Analysis. A study of the feasibility and potential applicability of environmental accounting practices in the electroplating industry. EPA/742/R-97-003, 54 pages, May 1997.
Environmental Accounting Documents Available from the U.S. EPA, 6 pages, Fall 1997.
Environmental Accounting Project: Quick Reference Fact Sheet, 1 page, September 1997.
Environmental Cost Accounting for Chemical and Oil Companies: A Benchmarking Study. This report summarizes an environmental cost accounting benchmarking study of five major U.S. and Mexican companies that are currently developing environmental accounting systems. EPA/742/R-97/004, 59 pages, June 1997.
P2/FINANCE Software Version 3.0 and P2 Finance User's Manual (Lotus 1-2-3 Version 3.4 for DOS), December 1996.
Valuing Potential Environmental Liabilities for Managerial Decision-Making: A Review of Available Techniques. This report describes publicly available approaches and tools that have been developed specifically for estimating the monetary value of potential, preventable environmental liability costs. EPA/742/R-96/003, 114 pages, December 1996.

ENVIRONMENTALLY PREFERABLE PURCHASING PUBLICATIONS

Cleaning Products Pilot Project Fact Sheet, EPA/742/F-97/001, 4 pages, February 1997.
Cleaning Products Pilot Project, EPA/742/R-97/002, 20 pages, February 1997.
Environmental Marketing Claims, EPA/744/F-97/005, 8 pages, April 1997.
Selling Environmental Products to the Federal Government, EPA/742/K-97/002, 1 page foldout, May 1997.
Update #1: Environmentally Preferable Purchasing Program, EPA/742/F-96/002, 6 pages, February 1997.

Unless otherwise indicated, to order, contact:

Pollution Prevention Information Clearinghouse, tel: 202-260-1023, fax: 202-260-0178,
or order directly from www.epa.gov/opptintr/p2home/ppicdist.htm



LEAD PUBLICATIONS

Available from the National Lead
Information Center (1-800-424-LEAD).

Finding a Qualified Lead Professional for Your Home. Informational pamphlet in question and answer format that explains what kinds of lead inspection services are available and what to consider when hiring lead professionals. English only.

Laboratory Study of Lead-Cleaning Efficacy, EPA 747-R-97-002, March 1997.

Lead-Based Paint Abatement and Repair and Maintenance (R&M) Study in Baltimore: Findings Based on the First Year of Follow-Up, EPA/747-R-97-001, August 1997.

Lead Exposure Associated with Renovation and Remodeling Activities, EPA/747/R-005, 006, 007, 008.

Lead In Your Home: A Parent's Guide to Poisoning Prevention. Comprehensive guide for parents wishing to learn more about the health effects of lead and steps they can take to prevent childhood lead poisoning in their homes. For more information, contact Megan Carroll at 202-260-7269.

Protect Your Family From Lead in Your Home. 13-page informational pamphlet that describes the hazards of lead and the analyses that can be performed to determine the lead status of a dwelling. Developed under Section 1018 of the Residential Lead-Based Paint Hazard Reduction Act of 1992. English and Spanish.

OPPT NEWSLETTERS

Chemicals in the Environment. Free publication, published 3 times a year. Each issue has a theme, focusing on activities and information products and services associated with that theme. Subscribe to: CIE Editor, U.S. EPA (7407), 401 M Street, SW, Washington, DC 20460.

Chemicals in Progress Bulletin. Free publication, published twice a year, describing OPPT programs and activity status. Subscribe to: CIPB, U.S. EPA (7409), 401 M Street SW, Washington, DC 20460.

Pollution Prevention News. Free 12-page bimonthly newsletter covering pollution prevention activities of EPA, states, communities, industry, international. Features calendar of events, case studies, interviews, EPA news, topical issues. Subscribe to: PPN, U.S. EPA (7409), 401 M Street SW, Washington, DC 20460.

TRI PUBLICATIONS

Available online at www.epa.gov/opptintr/tri

1995 TRI Public Data Release report, EPA/745/R-97/005, April 1997. 1995 State Fact Sheets, EPA/745/F-97/001, April 1997. Call 800-535-0202, or fax request to 703-412-3333.

TRI Information Kit, EPA 749-P-94-002 (Free). Available from NCEPI, call 800-490-9198, or 513-489-8190, or fax request to 513-489-8695.

1995 State Data Files on Disk (dBASE Lotus), up to 67 disks for all states. Available from The Government Printing Office, 202-512-1530.

Unless otherwise indicated, to order, contact:

Pollution Prevention Information Clearinghouse, tel: 202-260-1023, fax: 202-260-0178,
or order directly from www.epa.gov/opptintr/p2home/ppicdist.htm



OTHER PUBLICATIONS

Drinking Water, Pollution Prevention, and Public Health, 8 pages, February 1997.

Internet Guide to Promote Concern for the Environment. Contains descriptions and computer addresses for 50 Internet sites related to community-based environmental protection. Also available on OPPT's home page. For more information, contact Thomas Tillman at 202-260-7605.

OPPTS Catalogue of Tools. A catalogue of tools, resources, and programs on the characteristics and effects of pesticides and industrial chemicals. Includes databases, analytic tools, information hotlines, technical guidelines, and descriptions of programs and initiatives that may be useful in protecting local environments. The catalogue will be available as a printed manual and on the Internet. For more information, contact Joe Schechter at 202-260-1540.

Points to Consider in the Preparation of TSCA Biotechnology Submissions for Microorganisms. Available online at www.epa.gov/opptintr/biotech.

Pollution Prevention 1997: A National Progress Report. EPA 742-R-97-00, 286 pages, June 1997. *Executive Summary*, EPA 742-S-97-001, 13 pages, June 1997.

The Presidential Green Chemistry Challenge Awards Program: Awards Recipients, EPA/744/K-97/003, 22 pages, September 1997. This document provides a collection of the academic, small business, and industrial recipients of the Presidential Green Chemistry Challenge Awards Program. Provides a summary of technologies for which these individuals and organizations were selected to receive the award.

Unless otherwise indicated, to order, contact:

Pollution Prevention Information Clearinghouse, tel: 202-260-1023, fax: 202-260-0178,
or order directly from www.epa.gov/opptintr/p2home/ppicdist.htm



INFORMATION RESOURCES

Following is a listing of key information resources available from OPPT and EPA relating to toxic chemicals and pollution prevention.

HOTLINES AND CLEARINGHOUSES

Asbestos Ombudsman Clearinghouse/Hotline

800-368-5888

The Asbestos Ombudsman Clearinghouse/Hotline provides general asbestos information to the public. Operated by EPA's Small Business Ombudsman's Office, it also assists small businesses in complying with EPA regulations. Call 703-305-5938 in the Washington metropolitan area.

Chemical Assessment Desk

202-260-3998

EPA's Chemical Assessment Desk is available to Agency personnel to answer questions on existing chemicals regarding health and environmental risk, toxicity, environmental persistence, exposure potential, production, use, and regulatory status. Inquiries from the general public are usually referred to the appropriate EPA hotline.

EPCRA Hotline

800-535-0202

The EPCRA Hotline provides information on the TRI program, including the availability of TRI data, TRI information products, and sources of support for TRI data users. The hotline operates Monday through Friday, from 9:00 a.m. to 6:00 p.m. (Eastern Standard Time) in English and Spanish.

Lead Hotline

800-LEADFYI (800-532-3394)

The Lead Hotline provides general information on lead poisoning and prevention. The hotline distributes a basic information packet on lead that includes the EPA brochure "Lead Poisoning and Your Children," three fact sheets, and a list of state and local contacts for addition information. It is available 24 hours a day, 7 days a week in English and Spanish. Requests for documents may be faxed (202-659-1192) or e-mailed (ehc@cais.com). Callers with more specific questions are referred to the Lead Clearinghouse, which provides additional informational materials, such as federal publications, selected journal articles, updates on and summaries of lead-related federal laws and regulation, such as the Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title X) and the OSHA interim final rule on lead in construction, and lead-related federal grant programs.

National P2 Center for Higher Education, University of Michigan

The National Pollution Prevention Center (NPPC) for Higher Education was established through a private-public partnership at the University of Michigan in 1991 to collect, develop and disseminate materials on pollution prevention. Materials developed by the NPPC include resource lists, annotated bibliographies, problem sets, case studies, teaching notes, syllabi, and videos in the following disciplines: accounting, architecture, business law, chemical engineering, chemistry, environmental studies, industrial engineering, materials and logistics management, operations research

and industrial ecology, and sustainable agriculture. NPPC also conducts an internship program for students interested in pollution prevention as well as a Design for the Environment Executive Education workshop.

NPPC is emphasizing the Internet in its outreach activities and is planning to focus on sustainability in its research over the coming years. For information or to order materials, the NPPC can be reached at 430 E. University, Ann Arbor, MI 48109-1115; tel: 313-764-1412; fax: 313-936-2195; email: nppc@umich.edu, or on the World Wide Web (www.snre.umich.edu/nppc).

OPPT Library

The OPPT Library at EPA Headquarters in Washington, DC maintains a collection of books, journals, newspapers, and government documents in support of the TSCA and EPCRA programs. The library's collections include publications in the areas of chemistry, toxicology, carcinogenesis and mutagenesis, and environmental, health, and safety. Special collections are also maintained on pollution prevention, biotechnology, and risk assessment. The library supports walk-in and telephone reference Monday through Friday from 8:30 a.m. to 4:00 p.m. E.S.T. Requests for information can also be submitted via e-mail (library-tsca@epamail.epa.gov) or the Library's web site (www.epa.gov/opptintr/library/libaccess).

Pollution Prevention Information Centers

EPA awarded over \$1 million in grants to establish five new regional P2 Information Centers and maintain the four existing centers. The centers' goals are to provide a centralized source for high quality P2 information and expertise, minimize duplication of publication and training efforts among states, increase collaborative efforts to leverage existing resources, and synthesize new and existing P2 information. The new regional centers should be up and running in FY 1998 and will focus primarily on state information needs. The centers will supply and update information through the Internet for training, case studies, and technical aids. *For more information, contact Beth Anderson at 202-260-2602.*

Pollution Prevention Information Clearinghouse (PPIC)

202-260-1023

PPIC is EPA's distribution center for documents and information on pollution prevention. A reference and referral telephone service is available to answer questions, take orders for documents, or refer callers to appropriate contacts. Hours of operation are Monday through Friday, 8:30 a.m. to 4:30 p.m. (Eastern Standard Time). Documents may be ordered by phone, fax (202-260-0178), e-mail (ppic@epamail.epa.gov), or from the P2 Web site (www.epa.gov/oppintr/p2home).

A special collection of documents relating to pollution prevention, waste minimization, and alternative technologies is maintained in the EPA OPPT Library. This collection is available for

P2 INFORMATION CENTER WEB SITES

Waste Reduction Resource Center

(EPA Regions 3&4)

www.owr.ehnr.state.nc.us/wrrc1.htm

Great Lakes Regional Pollution

Prevention Center (EPA Region 5)

www.inhs.uiuc.edu/hwric/hmlhome.html

Resources and Information

for Pollution Prevention in the Southwest

(EPA Region 6)

www.utep.edu/im3/p2/

Pacific Northwest Pollution Prevention

Resource Center (EPA Region 10)

pprc.pnl.gov/pprc/



browsing during visitor hours (8:30 a.m. to 4:30 p.m. Eastern Standard Time) and through EPA's Online Library systems (OLS). OLS is available through a synchronous (modem) communication at 919-549-0720, with 7 data bits, even parity, 1 stop bit, and half duplex.

TSCA Assistance Information Service

202-554-1404

The TSCA Assistance Information Service provides information and technical assistance about programs implemented under TSCA, ASHAA, and AHERA. The hotline typically handles questions involving the handling and disposal of PCBs, asbestos in schools and public buildings, registration of new chemicals (e.g., premanufacture notification), import certification, and reporting requirements under TSCA. Documents available through the hotline include *Federal Register* notices, asbestos guidebooks, Chemical Hazard Information Profiles, and the Chemicals in Progress Bulletin. Open to all callers, including the general public, the hotline operates Monday through Friday, from 8:30 a.m. to 5:00 p.m. E.S.T. Requests for documents can be faxed 24 hours a day to 202-554-5603.

TRI User Support

202-260-1531

TRI User Support provides general TRI information and publications to EPA staff, other federal agencies, industry, environmental and public interest groups, libraries, the international community and citizens. Information is provided in a variety of formats including printed reports, online databases, CD-ROMs, magnetic tapes, and computer diskettes. TRI User Support also provides services such as literature searches, training and demonstrations of the TRI online system, and referrals to EPA regional or state TRI contacts and other TRI resource centers. *For more information, contact Lisa Flemming, tel: 202-260-1531, fax: 202-401-2347.*

DATABASES

CORR (Chemicals on Reporting Rules)

www.epa.gov/opptintr/cool

CORR contains DBASE (.DBF) files which link TSCA chemicals to Federal Register Notices. To find out how a particular chemical is regulated under TSCA, search the CORR CHEMICAL file. The file includes the chemical's Chemical Abstract Service number, Premanufacture Notice number, applicable TSCA and EPCRA Section 313 sections, and corresponding *Federal Register* citations. A separate FEDREG file contains summaries of the final and proposed rules published in the *Federal Register* that are cited in the CHEMICAL file. The database is updated quarterly in January, April, July, and October. It is available from the TSCA Hotline (202-554-1404) on diskette, through the Internet (www.epa.gov/opptintr/CORR), and through RTK-Net. *For more information, contact Jim Bradshaw at 202-260-1543.*

Envirofacts

www.epa.gov/enviro

Envirofacts is a national information system that allows users to retrieve environmental information from seven major EPA databases on Superfund sites, drinking water, toxic, and air releases, hazardous waste, water discharge permits, and grants information. In addition, three integrated databases — the Facility Index System, the Master Chemical Integrator, and Locational Reference Tables — are accessible via Envirofacts. The system provides query forms that retrieve information from the various databases and then generates facility-based reports using the information. Results of queries can also be mapped via Envirofacts' "Map On Demand" feature.



IRIS

www.epa.gov/ngispgm3/iris

The Integrated Risk Information System – IRIS – is an electronic database containing information on human health effects that may result from exposure to various chemicals in the environment. IRIS is intended for those without extensive training in toxicology, but with some knowledge of health sciences. It is a tool that provides hazard identification and dose-response assessment information. Combined with specific exposure information, the data in IRIS can be used for characterization of the public health risks of a chemical in a particular situation that can lead to a risk management decision designed to protect public health. To aid users in accessing and understanding the data in the IRIS chemical files, the system provides extensive supporting documentation.

TRI Public Data Release

Beginning in 1989 and every year thereafter, EPA has published a CD-ROM containing the Toxics Release Inventory. The CD-ROM provides the entire TRI database for 1987 through 1995 on two disks and in a format that allows for searching on many fields, e.g., by chemical, company, kind of release, or zip code, across multiple years of data. Users can also conduct multiple and complex searches, especially useful to individuals or groups wishing to analyze trends or perform statistical analyses. The CD-ROM also provides a wealth of other TRI information, including a tutorial, TRI State Fact Sheets, TRI Data Release Book, TRI Reporting Form, and Chemical Fact Sheets. Current circulation of the TRI CD-ROM is over 4,000, including libraries, universities, and public interest groups. Through a grant with the National Science Teachers Association, a cross-disciplinary set of classroom materials and activities using TRI data will be developed for the second half of the 1997-98 school year. OPPT plans to release a user-friendly Windows version next year and is investigating other ideas for educational and multi-media applications. *For more information, contact John Nowlin at 202-260-8918. The CD-ROM can be ordered from U.S. GPO, 202-512-1800, S/N 055-000-00556-7 (\$43) or from NTIS, 800-553-6847, PB 96503214 (\$45).*

TSCATS

www.rtk.net/www/data/tsc

The Toxic Substances Control Act Test Submissions – TSCATS – is an online index to unpublished, non-confidential studies covering chemical testing results and adverse effects of chemicals on health and ecological systems. Four types of industry documents are included in TSCATS: Section 4 chemical testing results; Section 8(d) health and safety studies; Section 8(e) substantial risk of injury to health or environment notices; and voluntary documents submitted to EPA known as a For Your Information (FYI) notice.

INTERNET ACCESS

To access the vast amount of environmental information on the Internet, here are some useful World Wide Web addresses related to OPPT's activities:

EPA www.epa.gov

EPA's Web site contains a vast array of information. The home page provides a list of categories that link users to more specific menus. Through the home page users can: get in-depth information



about EPA's projects and programs; find out about laws and regulations; locate EPA offices, labs, and regions; browse through EPA publications; get the latest news and upcoming events; discover new databases and software tools; or see what grants and fellowships are available. In addition, the Home Page provides links to a range of other resources both inside and outside the agency.

OPPT www.epa.gov/opptintr

OPPT's home page has seven broad categories that users can click on to link to sites that provide more in-depth information on topical areas in each category. OPPT's programs and projects, publications, databases and software can all be accessed through the home page. In addition, a section for "Kids" provides information tailored for children, students, and teachers; and a section for "Concerned Citizens" provides information designed to help consumers and communities. Users can also link to other information resources – dockets, clearinghouses, libraries, and hotlines – for specific concerns.

Pollution Prevention www.epa.gov/oppintr/p2home/index

OPPT's Pollution Prevention home page links users to information about pollution prevention programs and activities both inside and outside of EPA. Specifically, users can choose from the following categories: EPA's pollution prevention programs and projects; publications, such as OPPT's PPN newsletter; the latest announcements on conferences, training and Federal Register notices; grant programs for pollution prevention activities at the state, local, and tribal level; The Pollution Prevention Act of 1990 and subsequent policy statements that have influenced the implementation of pollution prevention by EPA; and other informational resources and links.

Chemical Testing and Information www.epa.gov/opptintr/chemtest/index.htm

The Chemical Testing and Information home page provides an overview of TSCA with links to more specific information on: TSCA's Chemical Testing Program including the Master Testing List, the Interagency Testing Committee, Screening Information Datasets, and High Production Volume Chemical List; TSCA's Information Gathering Activities including the PAIR Form Filing Package; and TSCA's Information Sharing and Access Program.

Enviro\$en\$e es.epa.gov

Enviro\$en\$e is an integrated environmental information system developed by EPA to encourage common sense solutions, such as pollution prevention, to environmental problems. It contains information on EPA's laws, executive orders, policies, and guidance, in addition to documents, case studies, and proceedings from other federal and state agencies, the National Pollution Prevention Roundtable, industry, academia, and non-profit organizations.

New Chemicals Program www.epa.gov/opptintr/newchem

The New Chemical Program's home page contains a broad overview of the program with links to: informational and guidance documents about the program; status reports on recent PMN filings, exemptions, and reasonableness of risk findings; the TSCA inventory; SNURs and SNUNs, and Section 5(e) orders.



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