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Annual Report of the Office of Pollution Prevention and Toxics, FY 1995

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Foreword

I am pleased to present the first annual report of EPA's Office of Pollution Prevention and Toxics (OPPT). I believe that all those who have an interest in the Office's toxics and pollution prevention programs will find this report extremely helpful in understanding the diversity of these programs and assessing the programs' accomplishments for Fiscal Year 1995 (October 1, 1994-September 30, 1995). The goal of this report is to present not only what we do but also *how* it makes a difference.

What this report vividly illustrates is that OPPT's activities now involve much more than our traditional regulatory responsibilities under the Toxic Substances Control Act (TSCA). Much has changed in environmental protection since the passage of that law twenty years ago. Our work now takes place in a world with a broader environmental ethic and awareness. We have found new ways to use participatory and voluntary means to achieve environmental protection.

Rethinking how to achieve environmental protection, however, also requires rethinking the way we do business in the office. OPPT staff includes a diverse collection of outstanding and dedicated professionals: economists, toxicologists, chemical engineers, policy analysts, and administrative support staff, to name a few. We recognize that we must cultivate a healthy, efficient, and productive organization to effectively accomplish our mission. This involves cultivating an organization that fosters open communication and values diversity so that everyone is fully apprised of organizational goals and objectives and everyone's contributions, from senior scientist to secretary, are fully appreciated.

We also recognize that sound science is critical to sound environmental decision making. Our scientists continue to enhance and share their skills by publishing articles, developing scientific tools, and delivering presentations on a broad range of topics, such as the evaluation of carcinogenic hazard, the design of safer chemicals, and the harmonization of international test guidelines. The outstanding work of our scientists and their noteworthy accomplishments is demonstrated by projects such as ECOSAR, a personal computer software program that is used to estimate the toxicity of chemicals used in industry and discharged into water. This program is in high demand nationally and internationally.

In addition to maximizing our human resources within the Office, we must also strive to improve our responsiveness to our customers; look for new ways to define and measure success, and do a better job of communicating our priorities and agenda to the people with whom we do business every day. This report is one step in that direction. It highlights our FY 1995 accomplishments and signals the areas where our energy and resources will likely be focused in the years ahead.

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

Introduction

EPA's Office of Pollution Prevention and Toxics (OPPT) has a staff of approximately 450 people and is located at EPA headquarters in Washington, DC. The Office is organized into eight divisions and a program management and evaluation staff, OPPT's responsibilities include implementation of the following statutes:

- Toxic Substances Control Act (TSCA)
- Section 104(I) 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 (PPA)
- Residential Lead-Based Paint Hazard Reduction Act
- Asbestos School Hazard Abatement Act (ASHAA)
- Asbestos Hazard Emergency Response Act (AHERA)

As noted in the Foreword to this report, OPPT's activities today go far beyond the traditional implementation of statutory requirements. Within the framework of these statutory authorities, we pursue a number of participatory and voluntary means to protect public health and the environment. Traditional regulatory approaches also provide the foundation for much of what we do. To reflect this broader focus, this report is organized around the following four principles that guide OPPT's efforts in reducing health and environmental risks from toxic substances.

1. ADVANCE POLLUTION PREVENTION

It is our job to be the stewards of pollution prevention both inside and outside of EPA. OPPT is using several strategies in its advancing of pollution prevention as the preferred environmental strategy, including using voluntary reduction programs, partnerships, technical assistance, and grant opportunities to incorporate cost-effective pollution prevention alternatives into regulations and other initiatives.

2. PROMOTE SAFER CHEMICALS, PROCESSES, AND TECHNOLOGIES

Fundamentally, OPPT's role is to encourage the use of safer chemicals and processes in the basic operations of the industrial sector. Our new chemicals program under TSCA plays a major role in preventing chemicals that will pose significant risks from entering the marketplace and encouraging the introduction of less hazardous new chemicals. For chemicals

already in commerce, we are beginning to examine clusters of related chemicals, rather than single chemicals, in evaluating alternative products and processes. We are also encouraging industries to shift to products and processes that are safer and more effective.

3. PROMOTE LIFE CYCLE MANAGEMENT OF MAJOR CHEMICALS OF CONCERN

While pollution prevention is one of our guiding principles, we still face the task of overseeing several high risk chemicals — such as lead, asbestos, dioxin and PCBs — that have been widely used for years in buildings and equipment. These substances have been around for a long time, and their health risks are well documented and widely known. We will continue to need to manage the problems caused by their use well into the future.

4. PROMOTE PUBLIC UNDERSTANDING

Even the most optimistic projection of resources available to OPPT will permit direct government action on only a handful of chemicals of concern. We clearly need the help of others. The most effective way for OPPT to encourage and empower private initiative is to disseminate environmental information as widely as possible. Public release of information, and the tools to employ that information effectively gives everyone the ability to participate in the broader national effort to address the environmental concerns posed by chemicals.

I.

Advancing 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 which directly benefit companies and communities in applying pollution prevention solutions to improve the environment. We work with businesses to integrate environmental considerations into industrial processes and traditional business functions, and form partnerships to reduce the release of chemicals into the environment. This chapter reviews these initiatives as well as other projects undertaken by OPPT during FY 1995 to prevent pollution.

Pollution prevention makes economic sense. We'll save money on raw materials, we'll have less waste to dispose of, and we'll protect American citizens and our own environment.

— Carol M. Browner,
EPA Administrator

WORKING WITH INDUSTRY

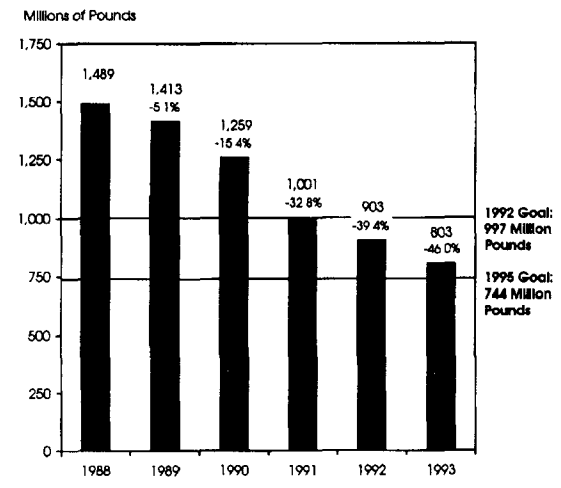
THE 33/50 VOLUNTARY PROGRAM

In 1991, EPA created the 33/50 Program, an experimental pilot program that challenges industry to become a voluntary partners in preventing pollution nationwide. OPPT manages the 33/50 Program, which derived its name from its goals — an interim goal of a 33 percent reduction by 1992 and an ultimate goal of a 50 percent reduction by 1995 in releases and transfers of 17 high-priority toxic chemicals, compared to a baseline of 1988. These chemicals are toxic, have high production volumes, and have high pollution prevention potential. Approximately 1,300 companies, operating more than 6,000 facilities nationwide, pledged to reduce the release and transfer of the 17 high priority chemicals.

One of the strengths of the 33/50 Program was to focus an extraordinary amount of industry's pollution prevention efforts on a small set of 17 high-priority chemicals. EPA chose these chemicals — which include organic chemicals such as benzene and trichloroethlylene, along with metals and inorganics such as mercury and cyanide — not only out of concern for their toxic effects, but because they are all broadly used throughout industry. The flexible, voluntary nature of the 33/50 Program allowed EPA to target these chemicals for ambitious reduction far more rapidly than would have been possible through conventional control strategies. The removal over 700 million pounds of these toxic substances from industrial waste streams has had a direct impact on environmental quality: 500 million pounds of air emissions

For more information on the 33/50 Program call the TSCA Hotline at (202) 554-1404, or contact the 33/50 Program staff directly at (202) 260-6907.

33/50 Program Progress



have been eliminated, and water discharges have been reduced 60 percent. As a result of these reductions, the environment is cleaner and the risk to human health and to ecosystems from these chemicals has been reduced. The success of this program has demonstrated that EPA and industry can work productively in a voluntary mode.

The 33/50 Program continues to achieve major strides, as demonstrated by the TRI data released in FY 1995 (covering calendar year 1993). National emissions for the 33/50 Program chemicals were voluntarily reduced by an additional 100 million pounds in 1993, bringing total reductions between 1988 and 1993 to 685 million pounds or 46 percent. Release of FY 1996 data (covering calendar year 1994) indicates the 33/50 Program exceeded its ultimate 1995 50% national pollution reduction goal by 10 million pounds, a full year ahead of schedule.

In addition to the national program for reducing emissions, the 33/50 Program has also assisted the EPA's Chesapeake Bay Program in implementing a community-based voluntary reductions program modeled after 33/50. The Chesapeake Bay Program is setting out to achieve ambitious goals for reducing priority chemicals in the Bay watershed.

OPPT is working with stakeholders to develop the "Next Generation" of the 33/50 program to achieve more success through another voluntary initiative.

POLLUTION PREVENTION THROUGH TECHNOLOGY TRANSFER (EASTMAN KODAK CASE STUDY)

OPPT has developed a variety of analytical methods to support the evaluation of potential risks and benefits of chemicals. These methods include computer modeling techniques, quantitative structure activity relationships, automated exposure assessment methods, and others. Using these innovative tools helps prevent highly toxic chemicals from entering our environment and assists industry to prevent pollution by enabling them to fine-tune the chemical manufacturing process to minimize the generation of toxic waste. These tools also represent an economically efficient approach to pollution prevention since problem chemicals can be identified before resources are spent developing a chemical for commercial use.

In FY 1995, OPPT and Eastman Kodak Company worked together on a pilot project to evaluate the utility of our methods to Kodak operations. Kodak found EPA's analytical methods very useful, enhancing processes already in place to guide the company's research and development efforts. EPA's methods helped Kodak to anticipate problematic waste streams from new synthetic pathways and to focus resources on chemicals least likely to result in potential health and environmental risk. Kodak's comments on the collaboration include the following statement:

"At the outset, we realized that participation in the technical exchange program could help the Health and Environment Laboratories advance an important goal - to provide product development scientists with an early assessment of the potential health and environmental effects from chemicals being considered for use in new product designs or reformulations"

"... these methods, if applied early enough in a chemical or product development cycle, can have an immediate and positive impact on programs to reduce the potential hazards from commercial manufacturing operations"

"The methodologies supplied by the Agency allowed those chemicals with the greatest potential hazard to be eliminated from further consideration at a point in time when the economic impact of the decision was minimal. By applying the methods early in the development cycle, we were able to avoid unnecessary expenditures on product formulations for which appropriate alternatives were available or could be developed."

With the creation of these tools, the Agency and industry can maximize the use of information available which decreases the need for obtaining resource-intensive laboratory data. This project demonstrates how the Agency is reinventing the way we work with industry to prevent pollution. OPPT is working to develop technical assistance guides to enable medium and large size industries to take advantage of these cost-effective pollution prevention tools.

For more information on the following DfE projects call the Pollution Prevention Information Clearinghouse at (202) 260-1023.

DESIGN FOR THE ENVIRONMENT

OPPT created EPA's Design for the Environment Program (DfE) as a voluntary program aimed at helping businesses incorporate environmental considerations into the design and redesign of products, processes, and technical and management systems. The DfE program works through voluntary partnerships with industry, professional organizations, state and local governments, other federal agencies, and the public to promote safer substitutes, technologies, and chemical processes. These opportunities positively impact the health and safety of workers and consumers, and the environment. DfE programs include broad institutional projects aimed at changing general business practices, as well as more targeted joint projects with trade associations and businesses in specific industry segments. Following are highlights of projects that took place in FY 1995.

DfE Printing Industry Projects

April 1995 marked the end of a three-year cooperative effort between the Screen printing and Graphic Imaging Association (SGIA) and DfE. As a final event, the DfE Screen

Printing Project sponsored a conference and informational forum in Chicago, Illinois on April 6 and 7, 1995, called ***Re- source.*** The goal of the conference was to show screen printers how to do business "cleaner, cheaper, and smarter." With speakers from the screen printing, environmental management, and technical assistance communities, the conference showcased the information products and tools developed over the course of the partnership. The project focused on evaluating substitute screen reclamation systems. Switching to a substitute system can reduce screen printers' Volatile Organic Compound (VOC) emissions (which are harmful air pollutants), occupational exposure, and waste water discharge concerns. DfE is also working with the lithography and flexography sectors of the printing industry to develop data on environmental and human health risks, costs, and performance for traditional and substitute products, processes, and technologies.

P2 Finance for Screen Printers is a computer software program that assists screen printing companies in assessing the full costs and savings associated with pollution prevention alternatives. This entails including cost items that are often neglected, miscalculated, or misallocated in conventional financial analyses. The software package is available from SGIA, 10015 Main Street, Fairfax, VA 22031 or fax the order to (703) 273-2870. $25/members, $50/nonmembers.

Saving Money: Reducing Waste. This video, produced by SGIA and the New Jersey Small Business Development Center, provides timely tips for screen printers to incorporate pollution prevention and waste minimization into their printing operations. Available from SGIA; $25/members, $35/nonmembers.

DfE Dry Cleaning Industry Project

DfE has been working with the dry cleaning industry to develop and test toxic free alternative cleaning processes. With over 30,000 establishments in the U.S., dry cleaners make up one of the largest users of chemicals that come into direct contact with the general public. The solvent perchloroethylene (PCE) is used by over 90 percent of the nations' dry cleaners. There is evidence that high doses of PCE causes cancer in laboratory animals, and limited evidence of cancer in humans based on occupational exposure (such as workers with high exposure in dry cleaners). The dry cleaning project is an example of how DfE is working in partnership with businesses that have a real impact on local communities.

In an effort to limit the quantity of toxic chemicals used in the dry cleaning industry, demonstration projects were recently launched in Chicago, Los Angeles, and Indianapolis to assess the long-term viability of alternative garment cleaning technologies. The shops mirror typical neighborhood dry cleaning facilities except that they use alternative technologies rather than chemical solvents to clean clothes. The demonstration projects are designed to assess customer satisfaction, cost effectiveness, and performance of multi-process wet cleaning and machine wet cleaning technologies. A training program has also been developed at the shops to instruct dry cleaning professionals in alternative techniques, equipment, and quality control.

DfE Printed Wiring Board Industry Project

Printed wiring boards (PWBs) — used to electronically connect semiconductors, computer chips, and all electronic components — are an irreplaceable component of the electronics, automotive, defense, and communications industries. DfE is working with the PWB industry and other stakeholders to evaluate technology alternatives that minimize both environmental and health risks and production costs associated with manufacturing PWBs. The

project examines the process of "making drilled holes conductive," a major step in PWB manufacturing. Seven categories of technologies are being evaluated. We anticipate that the alternative technologies present pollution prevention benefits through decreases in occupational exposure to toxic chemicals, reductions in the amount of hazardous waste generated, and decreases in the amount of energy and water used. A Cleaner Technologies Substitutes Assessment (CTSA) report is expected to be completed in early 1997 that will evaluate the risk performance and cost of these alternative technologies.

Recent products of the PWB partnership include several documents prepared by project participants: *Printed Wiring Board Industry and Use Cluster Profile, Printed Wiring Board Pollution Prevention and Control: Analysis of Survey Results, Federal Environmental Regulations Affecting the Electronics Industry,* and two prevention case studies (available through the Pollution Prevention Information Clearinghouse, 202-260-1023). Participants are also establishing a World Wide Web site which will contain all project documents and information about activities and upcoming events. The information generated in the project will assist PWB manufacturers to prevent pollution by choosing to implement environmentally friendly technologies. Industry stakeholders have actively demonstrated their support for this project and have already realized pollution prevention benefits (e.g., reduction in water and energy use) from the information generated by this project.

DfE Green Chemistry Challenge

As part of the Reinventing Environmental Regulations Initiative, on March 16, 1995, President Clinton announced the Green Chemistry Challenge Program to "promote pollution prevention and sustainability through a new Design for the Environment partnership with the chemical industry." The Green Chemistry Challenge has two phases. First is a recognition of accomplishments in chemistry that have been used to achieve pollution prevention goals. The Challenge will focus on the design and synthesis of chemicals which incorporate pollution prevention principles into their use and manufacture.

Second, the Challenge program will promote basic research through EPA research grants and encourage industrial and university collaboration to develop innovative approaches to achieve pollution prevention. The research will help identify ways of making chemicals which reduce or eliminate the use or generation of toxic feedstocks, by-products, and impurities. Alternative solvents which do not contribute to air pollution will be a focus of the research, as will chemicals with reduced potential for accidents due to explosions or fires. By changing the types of chemicals that are used in all types of consumer an industrial projects, Green

Green Chemistry Challenge Winners

- **Monsanto Corporation**, for creating a new process to manufacture the widely used consumer pesticide "Round-Up."
- **Dow Chemical Company**, for finding a replacement for CFCs and other volatile organic compounds (VOCs) used in manufacture of foam products.
- **Rohm and Haas Corporation**, for designing its product "Sea-Nine," a marine anti-foulant used in coating boats and ship hulls to prevent the accumulation of marine life, as a safer chemical.
- **Donlar Corporation**, for developing polyaspartates, a new class of polymer products that can be used in products including fertilizer and personal hygiene products.
- **Texas A&M University**, for research in using agricultural wastes (biomass) for use in animal feed, fuels, and high value chemicals.

Chemistry is promoting pollution prevention at the molecular level. The use of these technological developments will directly reduce the risk to human health and the environment by reducing the hazards posed by chemicals used in manufacturing products from food packaging to auto parts.

DfE Environmental Accounting Project

Traditional accounting practices prevent businesses from seeing the benefits of investing in pollution prevention. Typically, environmental costs associated with particular products and processes are placed in an overhead account that effectively hides the association from decision-makers. The goal of the Environmental Accounting Project is to "encourage and motivate businesses to understand the full spectrum of their environmental costs and incorporate these into decision making". The publications and tools produced by the Environmental Accounting Project better enable businesses to identify and track environmental costs, make more informed decisions, reduce costs and improve efficiency, financially justify the adoption of pollution prevention projects, and measure and manage their environmental performance.

During 1995, OPPT published *An Introduction to Environmental Accounting as a Business Management Tool: Key Concepts and Terms.* This publication describes the principles behind environmental accounting; defines environmental accounting terms, establishes the importance of environmental accounting, and outlines some of its applications. Several hundred copies have been distributed to industry, trade associations, and schools. AT&T is distributing the publication at all its facilities, and Great Britain's Chartered Association of Certified Accountants is reprinting it for distribution across England and throughout Europe.

Another OPPT publication, *Environmental Accounting Case Studies: Green Accounting at AT&T,* describes how a major corporation is beginning to implement environmental accounting practices. And, *Environmental Cost Accounting for Capital Budgeting: A Benchmark Survey of Management Accountants* examines the extent to which U.S. manufacturing firms consider environmental costs in their routine capital budgeting projects. All Environmental Accounting Project documents are available from the Pollution Prevention Information Clearinghouse at 202-260-1023, or via the Internet on Enviroene.

The Environmental Accounting Project also funded a one-day workshop in October in EPA Region 10 for industry and state technical assistance providers. The workshop provided educational panels on environmental accounting concepts and business implementation experiences.

DfE Pollution Prevention Finance Project

Many pollution prevention projects flounder because of the difficulties of obtaining financing. The goals of the Pollution Prevention Finance Project are to: (1) enhance the ability of small and mid-sized businesses to obtain financing to implement existing pollution prevention technologies, processes, or procedures; (2) augment the flow of investment capital for small and mid-sized businesses to develop new prevention-oriented technologies or

products; and 3) utilize the financial community's influence with its commercial and investment client base to promote environmentally-aware, prevention-oriented business practices.

OPPT helped fund a Credit Assistance Pilot Project through the Maryland Department of the Environment. This pilot project was conducted to learn first-hand the types of barriers facing small businesses such as dry cleaners, in obtaining financing for the purchase of pollution prevention equipment. The project concluded that an active outreach effort which involves the financial as well as the target regulated communities can significantly increase the chances that pollution prevention technologies will be adopted for regulatory compliance purposes.

In conjunction with the Environmental Finance Center at California State University at Hayward, OPPT provided a forum for bankers to discuss the types of environmental information that would be useful for them in post-loan monitoring in order to reduce their exposure to environmental liability.

DfE Environmental Insurance and Risk Management Project

Environmental liability reduction is important for both the environmental insurance and risk management industries. The goal of the Environmental Insurance and Risk Management Project is to reach out to these industries so that they can become partners in promoting pollution prevention as an effective method for companies to reduce their environmental liabilities. For example, we have been working with the American Institute for Chartered Property Casualty Underwriters (AICPCU), the industry's education and certification organization, to incorporate environmental insurance issues into their curriculum.

In June 1995, a focus group of insurance and risk management industry professionals convened to discuss how pollution prevention might be incorporated into their industries, and the role EPA should play in promoting the concept. A summary of the focus group's discussion and recommendations published in September 1995, identified several things from this group, including that: (1) Superfund liability is still a major concern for the insurance industry; (2) many firms see the potential for using pollution prevention advice to gain a competitive advantage; and (3) actuarial data on the effects of pollution prevention will be needed to convince the industry of the true value of pollution prevention.

For information or to order materials, contact: NPPC, 430 E. University, Ann Arbor, MI 48109-1115; tel: (313) 764-1412; fax: (313) 936-2195; E-mail: NPPC@umich.edu. Its home page on the World Wide Web can be accessed at: http://www.snre.umich.edu/nppc/

DfE National Pollution Prevention Center for Higher Education (NPPC)

The National Pollution Prevention Center for Higher Education (NPPC) was founded at the University of Michigan in 1991 to collect, develop, and disseminate educational materials on pollution prevention. With grant support from OPPT, NPPC operates through partnerships of academia, industry, government, and non-governmental organizations. NPPC's materials (including resource lists, annotated bibliographies, problem sets, case studies, teaching notes, syllabi, and videos) cover a variety of disciplines, such as accounting, business law, chemical and industrial engineering, environmental studies, operations research, and industrial ecology.

This initiative is helping to provide valuable training for future professionals who can indoctrinate source reduction principles into our nation's businesses and industries so pollution prevention becomes an integral part of doing business. In FY 1995, NPPC worked to expand the materials available to disciplines such as architecture, chemistry, materials and logistics management, and sustainable agriculture. NPCC also increased its outreach efforts to inform other colleges and universities, as well as the general public, about the pollution prevention materials available.

INTEGRATING THE POLLUTION PREVENTION PHILOSOPHY

SOURCE REDUCTION REVIEW PROJECT (SRRP)

OPPT manages the Source Reduction Review Project (SRRP), an internal EPA initiative which aims to incorporate a multi-media, pollution prevention approach into the rulemaking process for key air, water, and solid waste rules. SRRP represents one of the first systematic efforts to change how EPA's environmental media programs develop their regulations. Through SRRP, OPPT assists media programs in conducting a detailed examination of the opportunities for, and obstacles to, using multi-media pollution prevention approaches. In the process, the media programs collect more pollution prevention data, add technical and economic analyses of pollution prevention options and technologies, and otherwise engage in more cross-media analysis than in rulemakings prior to SRRP.

An assessment of the lessons to be drawn from the SRRP was prepared in early 1996. In general, SRRP demonstrates how EPA can incorporate the flexibility industry seeks (to experiment, meet diverse needs, etc.) in writing environmental standards, while still maintaining the conformity that inspectors need to measure performance. SRRP's experience with consulting stakeholders from industry, environmental groups, and the states prior to beginning a rulemaking process helped identify potential barriers to pollution prevention. SRRP thus provided an early indication of how regulatory actions can be compatible with the Agency's new initiatives such as the Common Sense Initiative and the Permit Improvement Team, which take a multi-media approach to environmental protection.

ENVIRONMENTALLY PREFERABLE PRODUCTS

EPA is directed by [Section 503] of Executive Order [12873] ("Federal Acquisition, Recycling and Waste Prevention"), to develop an approach for federal acquisition of environmentally preferable products that not only minimizes environmental burden, but also provides incentives to industry to continuously improve the environmental performance of products and services to the federal government. OPPT has taken the lead on this project within EPA. Ideally, the approach will guide executive agencies in comparing envi-

ronmental performance among competing products and services, so that environmental impact becomes a criterion like cost or performance against which federal agencies select products or services.

EPA requested public comments on compiling a general guidance document on environmentally preferable products as well as guidance for specific product categories. EPA meetings with stakeholders provided additional opportunity for public feedback on how EPA should proceed in developing the general guidance.

Pollution prevention means source reduction — preventing or reducing waste at the source — and other practices that reduce or eliminate the creation of pollutants through increased efficiency in the use of raw materials, energy, water, or other resources, and protection of natural resources through conservation.

ISO 14000

OPPT leads an Agency task force, called the EPA Standards Network, that coordinates EPA's participation in the International Standardization Organization (ISO) process for the development of voluntary environmental management standards. This effort, also known as ISO 14000, is anticipated to have a significant impact on business and industry in over 120 countries. The ISO 14000 environmental management standards have the potential to improve an organization's environmental performance through systemized approaches and consistent measures or techniques. Potential benefits for both the private and public sectors include: pollution prevention, environmental improvement and increased community confidence. The ISO 14000 series include standards for environmental management systems, environmental auditing, eco-labeling, life cycle assessment, environmental performance evaluation and environmental aspects in product standards.

The EPA Standards Network ensures that U.S. environmental policies and interests are accurately represented in the standard development process. Through the Network, the Agency is evaluating how these standards complement existing environmental regulations and voluntary initiatives to achieve improved environmental protection in a cost-effective manner. In addition, OPPT is exploring the use and impact of the ISO eco-labeling standard in conjunction with EPA's Consumer Labeling Initiative. Some of the most important ISO standards in the series are completed and will be published documents by the end of 1996.

OPPT awarded grants to inform the regulated community and the public about ISO 14000 and to encourage participation in the process. OPPT has developed several fact sheets ("The Role of Voluntary Standards in the U.S. Government," and "ISO 14000: Environmental Management Standards") that provide information about this international effort. To obtain information on this initiative call the Pollution Prevention Information Clearinghouse at 202- 260-1023.

SUPPORTING POLLUTION PREVENTION INITIATIVES

POLLUTION PREVENTION INCENTIVES FOR STATES (PPIS) GRANTS

The Pollution Prevention Incentives for States (PPIS) grant program fosters the creation of new prevention approaches by states and the development of cross-media state and tribal pollution prevention programs. Specifically, these grants fund projects in the areas of technical assistance and training, education and outreach, regulatory integration, demonstration projects, legislation and infrastructure activities, and awards and recognition. EPA designed PPIS as a state-based program because state-based environmental organizations can make a unique contribution to the national effort to promote pollution prevention through closer, more direct contact with industry and their heightened awareness of local needs. The PPIS grant program demonstrates how pollution prevention can play a central role in reducing risk to human health and the environment, while also being the most cost-effective option because it reduces raw material losses, the need for expensive "end-of-pipe" technologies and long-term liability.

Approximately $6 million for PPIS was awarded by EPA's Regional Offices in FY 1995 to fund 73 projects. An example is the grant received by the Rhode Island Narragansett Bay Commission which will be used to train personnel in Rhode Island's small business community (primarily metal finishing) and publicly owned treatment works in source reduction and pollution prevention techniques and technologies.

ENVIRONMENTAL JUSTICE THROUGH POLLUTION PREVENTION GRANTS

Another OPPT-led initiative to prevent pollution merges three of the Agency's highest priorities — pollution prevention, environmental justice, and community-based environmental protection in the "Environmental Justice through Pollution Prevention" grant program (or EJP2 grants). Environmental justice is defined as the fair treatment of all races, cultures, incomes, and educational levels with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. The EJP2 grant program demonstrates how pollution prevention can play a central role in reducing environmental risks, promoting corporate/public partnerships, and economically benefitting communities.

In FY 1995, EPA's Regional Offices awarded over 70 EJP2 grants to community groups and local government organizations in economically disadvantaged and minority communities. The grants will fund initiatives such as public education, training, demonstration projects, research, surveys, studies, public-private partnerships, technologies, revolving funds, and efforts to utilize non-regulatory strategies. Examples of EJP2 projects include:

- working with small businesses in the Boston neighborhoods of Roxbury and Bowdoin to reduce pollution releases;

- providing training on information access, pollution prevention planning, and hazardous material reduction to the Shoshone and Northern Arapaho tribes in Wyoming; and
- providing development loan funds to minority-owned businesses who cannot otherwise afford to install pollution prevention technology in Washington State.

POLLUTION PREVENTION TRADE ASSOCIATION WORKGROUP

In November 1994, OPPT held a major meeting with trade associations to focus, for the first time, on the role those associations play in the promotion of pollution prevention and the environmental management of chemicals. OPPT sponsorship of this meeting signaled our recognition that trade associations, which represent a large number of companies, are playing a growing role in communicating and advancing environmental goals of the nation. Trade associations are often the only way we can reach small businesses who do not have on-staff technical consultants or government relations staff. This meeting also represented OPPT's effort to shift more of its focus from chemical manufacturers to chemical users.

As a result of the initial meeting, OPPT formed a "Pollution Prevention (P2) Trade Association Workgroup" who identified (at their May 1, 1995 meeting) three areas to concentrate on: (1) providing technical resources and information; (2) maintaining consistent support for pollution prevention from EPA; and (3) holding a workshop to implement the first two agenda items. This workgroup, which continues to meet periodically, provides fertile ground for a dynamic and constructive dialogue between EPA and industry. Since environmental progress requires industry-specific knowledge and the ability to combine the resources of companies to address industry-wide concerns, the work of trade associations will be crucial to advance environmental protection. Both EPA and industry realize that we are beginning to reach the limits of results achieved through traditional command-and-control approach to environmental protection. To meet this challenge, the P2 Trade Association Workgroup is one example of a more effective approach to addressing environmental concerns, where industry associations and their member companies take responsibility for identifying environmental concerns of their industry, prioritize these concerns, and systematically work to develop and implement pollution prevention and risk management plans that address these concerns. EPA, in partnership with the associations, can use its resources to focus on areas where the most help is needed, as well as play a role in helping associations set credible national goals and measures of progress.

2.

Reducing Risk to the Public from Chemicals: Promoting Safer Chemicals, Processes, and Technologies

The Office of Pollution Prevention and Toxics (OPPT) is in the unique position of being able to both identify chemicals that are or could be hazardous to the environment and the health and safety of the public, and to use a variety of methods to tackle the management of these chemical risks. 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. Through a combination of regulatory and partnership efforts, OPPT can point to successes of pollution prevention, reduction of risk, environmental justice and a greater understanding of chemicals and processes and their impact on the environment and public health.

OPPT has been working on an agenda to systematically address the most serious risks associated with chemicals on the Toxics Substances Control Act (TSCA) Inventory. This effort will further reduce exposure of the population to harmful chemicals. The office has moved forward to meet this challenge through a variety of information gathering, testing and risk management activities. For chemicals already in commerce, we have begun examining clusters of related chemicals, rather than single chemicals, in evaluating alternative products and processes. We are also encouraging industries to shift to products and processes that are safer and more effective.

All new chemicals introduced into commerce must first go through review and evaluation by OPPT before production or importation can commence. This is the only opportunity the government, at any level, has for reviewing an industrial chemical prior to its entry into commerce. Therefore, it is the ultimate in prevention. Not only is this a powerful pollution deterrent and public health and environmental quality safeguard but also an avenue for the swift introduction of safer alternatives into the market place. 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 and also allows for the introduction of environmentally preferable alternatives to hazardous chemicals.

The chemical information obtained and assessed by the new and existing chemicals programs benefits a variety of internal and external customers. These programs provide the foundation for pollution prevention efforts such as the Design for the Environment (DfE),

and Green Chemistry programs, all of which encourage and assist industry in moving away from chemicals and processes that are harmful to our health and ecosystems. Over the years, OPPT has developed evaluation procedures and models which are used not only by this 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.

This chapter explains how we gather existing data on chemicals; develop new data on chemicals; manage the risks of chemicals already in the market place; and evaluate new chemicals before their introduction into commerce. It also explains how these activities and our 1995 accomplishments promote the use of safer chemicals, processes, and technologies.

While we have chosen to discuss accomplishments of the existing and new chemicals in the context of "promoting safer chemicals, processes and technologies," it is important to note that these programs considerably support and nurture the other guiding principles of the Office as well: advocate pollution prevention; promote life cycle management of major chemicals of concern; promote public understanding. We highlighted a few examples in the corresponding chapters to show this effort. However, for this report, we chose to mainly focus these programs within the context of safer chemicals, processes and technologies as the pillar for pollution prevention, risk management, and right to know.

GATHERING DATA

TSCA CHEMICAL INVENTORY

One of the tools available to OPPT in its endeavor to reduce exposure to hazardous chemicals is the Toxic Substances Control Act (TSCA). TSCA gives EPA broad authority to protect human health and the environment from the risks of toxic substances through requests for information, testing requirements, and controls on chemical production and commercial distribution. With this authority, OPPT maintains and updates the TSCA Chemical Substances Inventory of approximately 70,000 existing chemicals commercially produced or imported into the U.S. The most recent data were collected in early FY95. This ongoing collection of vital information serves to keep EPA informed of changes in the production of chemicals and is routinely used in prioritizing OPPT's chemical screening and regulatory programs. Other EPA offices, federal agencies, and the states have also benefitted from these data for chemical management activities. This exchange of information augments our internal efforts, increasing environmental protection activities at all levels of government.

Based on years of experience with chemical screening, OPPT has narrowed its focus for testing or risk management to 15,000 chemicals, with a primary emphasis on 3,000-4,000

high volume chemicals. The remaining 55,000 of the 70,000 existing chemicals listed on the TSCA Chemical Substances Inventory are not currently priorities for screening or investigation. These are chemicals that are produced in low quantities (less than 10,000 pounds per year) or polymers which, because of their chemical make-up, are not generally considered likely to present a significant risk to health or the environment. While progress has been made, there are still many chemicals on the Inventory that need to be assessed. As described below, OPPT focused its efforts in FY95 on a subset of chemicals of concern to receive the greatest benefit in our risk management efforts.

OPPT uses TSCA and non-regulatory tools to collect data needed to identify, assess, manage, and reduce actual or potential risks posed by exposure to existing chemical substances, and to help OPPT carry out its chemical testing responsibilities. TSCA Sections 8, 12, and 13 give EPA broad authority to issue rules requiring manufacturers (including importers) and processors of chemical substances to maintain records and/or report certain chemical and exposure information. In FY95, we processed approximately 3,800 section 8(e) "substantial risk" information submissions and conducted initial screening on approximately 9,000 section 8(e) submissions. EPA considers section 8(e) of TSCA to be a critically important information gathering tool that serves as an "early warning" mechanism for keeping EPA and others apprised of new-found serious chemical hazards and/or exposures.

In addition to the regulatory mechanisms, OPPT has initiated a number of voluntary and combined regulatory and voluntary actions to gather key chemical information. By working with industry, EPA has obtained additional data without issuing regulations. All of this information is extremely valuable in helping OPPT carry out its chemical testing mandate and risk identification efforts. OPPT is not the only organization to employ the data it collects and analyzes— the information is also pertinent for hazard/risk assessment activities within other EPA offices and outside EPA, domestically and internationally. As in the case with Toxics Release Inventory (TRI) information, governments, businesses, academia and the public rely on this information to make informed decisions to protect human health and the environment.

CHEMICAL USE INVENTORY

While we have learned much from the data gathered to date, there are still many questions and concerns about hazards and exposure that need to be addressed more fully. OPPT is contemplating an amendment to the TSCA Inventory Update Rule, known as the Chemical Use Inventory (CUI), to collect additional data related to the uses and potential exposures of chemicals in commerce. Specifically, OPPT is interested in gathering basic information on the industrial and consumer end uses of chemicals in commerce, as well as other exposure related data, such as the number of workers at manufacturing sites potentially exposed to a specific chemical. OPPT has held numerous meetings with a variety of stakeholders in FY 95 to discuss the value of proceeding with CUI.

Information collected through the CUI would assist EPA, state and local governments, and the private sector to establish realistic priorities and goals for chemical assessment, risk management, and prevention programs. Thousands of facilities, chemical uses, and exposure scenarios make screening and assessment of chemical risk an extraordinarily difficult task. OPPT would target several thousand chemicals through the CUI and would use the data to allocate resources to areas of highest risk. Given the potential value of this project, OPPT staff continued in FY95 to work with our customers to develop a CUI that will meet their needs as well as EPA's.

DATA GATHERING INITIATIVES

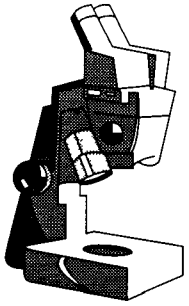
Throughout FY 1995, OPPT worked on a number of data gathering initiatives that not only augmented already available chemical information but also strived to reduce burden on industry. The following is a discussion of just a few of these important efforts.

OPPT synthesized input from a number of sources to prioritize its testing activities; one contribution to this priority setting process is the chemicals recommended by the TSCA Interagency Testing Committee (ITC), a group established under TSCA Section 4(e) and comprised of members appointed by Federal public health and environmental agencies. TSCA Section 8 rules were issued in November 1994 and July 1995 to gather data on chemicals identified by the ITC. These rules will provide the ITC with current production and exposure information and any unpublished health effects studies, so that the ITC can determine the testing needs for the subject chemicals. This is an example of one way OPPT, in 1995, addressed the Federal government's chemical data needs.

In a reinventing government context, further TSCA Section 8(d) reporting for 234 chemicals was determined to no longer be necessary, and, in September 1995, we terminated certain reporting requirements for this set of substances. The deletion of the chemicals will greatly reduce the overall industry reporting burden under this rule. We estimate that hundreds of companies will benefit from this action.

OPPT further reduced the regulatory burden on industry by deleting the TSCA Section 8(a) Comprehensive Assessment Information Rule (CAIR) in June 1995. CAIR was issued in late 1988 to obtain a wide range of information from chemical manufacturers and processors that would support chemical exposure/risk assessment. Despite its 100- page reporting form, the CAIR was designed and intended to be used selectively, i.e., only for specific types of information on certain designated chemicals. In the spirit of reinventing government, OPPT concluded that ongoing voluntary efforts with the Chemical Manufacturers Association and the Synthetic Organic Chemical Manufacturers Association, and others, can provide useful exposure information via a less burdensome process.

DEVELOPING DATA (Testing Chemicals)



MASTER TESTING LIST

The Master Testing List (MTL) establishes a clear agenda of priority testing needs identified by EPA, other Federal agencies, the ITC and the international community. The MTL also allows OPPT to focus its resources on the highest priority testing needs and to encourage chemical industry initiatives to conduct testing to address and fill the priority data needs identified on the MTL. In addition, the office uses the MTL to keep the public informed about OPPT's testing priorities and to solicit public input into OPPT's chemical testing program. The MTL currently contains more than 10 categories and 500 specific chemicals. Virtually all of these chemicals/categories are currently active in testing or testing action development.

OPPT obtains testing information on chemicals through voluntary agreements, Enforceable Consent Agreements (ECAs) and by issuing test rules under TSCA Section 4. In FY95, OPPT continued to encourage more voluntary agreements, and used the MTL to inform industry of the priority testing needs so they can take the initiative. For example, the office established an "open season" which allowed companies to indicate their interest in pursuing Enforceable Consent Agreements (ECAs) to address some of these testing needs. The results from these testing efforts will assist EPA and industry in identifying chemicals of concern to workers and consumers.

TESTING ACTIONS

OPPT develops, receives, evaluates and monitors testing efforts that result from both voluntary agreements with industry and the issuance of test rules or ECAs. Testing and the evaluation of test data is often a prolonged process that requires persistence and patience to fully understand the hazards and risks associated with a chemical. One of the key themes for improving environmental protection is basing Agency decisions on strong science and sound data. Science helps the Agency understand the processes and practices that cause pollution, evaluate the risks that pollution poses to humans and ecosystem and develop technologies and policies to prevent or mitigate risks, and develop safer chemicals. The OPPT testing program plays an important role in obtaining high quality information for the Agency's risk assessment and risk reduction activities by obtaining information on exposure, human health effects, environmental effects and the transport and transformation of chemicals in the environment.

Many of the recent voluntary and negotiated testing programs have included Product Stewardship Agreements encompassing worker protection, risk communication, environmental justice, pollution prevention, waste minimization and other risk reduction activities as well as testing. These additions to agreed upon testing programs directly result in safer chemicals, processes and technology sooner than that which would have resulted from for-

mal EPA risk assessment and follow-up risk reduction actions. Following are significant examples of agreements and testing rules by OPPT or test data under evaluation in FY 1995.

Voluntary Agreements

Siloxanes

In FY95, OPPT began negotiations with a major manufacturer of siloxanes to agree to voluntarily conduct animal toxicity testing and exposure monitoring programs. Siloxanes are used in a number of consumer products such as antiperspirants and deodorants, hair/skin care products and cosmetics. The chemicals are also used as chemical intermediates in the manufacture of silicone gums, rubbers and polymers. The negotiations led to a signed formal Memorandum Of Understanding (MOU) in 1996 for a voluntary comprehensive global product stewardship/testing program. The testing information will allow OPPT to better assess the potential risks posed by siloxanes to workers and consumers; the product stewardship effort by the manufacturer will also focus on worker/consumer communication and safety training, and exposure reduction activities. By working with the manufacturer on a voluntary program, instead of a more time intensive test rule, we were able to start the testing process quicker and incorporate immediate risk reduction actions into the manufacturer's standard operating procedures.

Formaldehyde

Another tool for obtaining testing data begun in FY95 is the Cooperative Research and Development Agreement (CRDA) with the National Particleboard Association for a pilot study of formaldehyde exposure testing in newly-constructed single family housing. Under the CRDA, EPA and industry worked together cooperatively on the pilot study, with EPA providing some resources and its technical expertise in conducting field exposure studies, and industry providing the resources and related testing services. Not only will the results from this study be important for resolving significant technical issues, but it provides us with a new partnership tool with industry for improving our understanding of risks to human health and ecosystems.

Oxygenated Fuel Additives

Methyl tetiary-butyl ether (MTBE) is the major oxyfuel additive now in U.S. commerce and is often added in the colder months to gasoline used for automobiles. There are a variety of oxyfuel additives which are being developed. Ethyl t-butyl ether (ETBE) is a new oxygenated fuel additive which could have direct health impacts on consumers who purchase gasoline. In the fall of 1995, a manufacturer agreed to conduct voluntary health effects testing on ETBE and to provide these data to EPA for review. The test data on ETBE will not only support OPPT's risk identification efforts, but will also be used by EPA's Office of Air and Radiation (OAR) as they continue to evaluate oxygenated fuel additives. During 1995, OPPT

also contributed to the development, with OAR and the Office of Research and Development, of an overall Agency testing strategy for the oxygenated fuel additives.

Enforceable Consent Agreements (ECA)

Dermal Absorption Rate

During FY95, OPPT also used TSCA Section 4 to pursue development of an ECA to obtain dermal absorption rate test data on about 80 chemicals. Not only will the data obtained via this testing action be useful to EPA, but the U.S. Occupational Safety and Health Administration (OSHA) needs these data for its chemical assessment/management activities. Through cooperative efforts like this, the Federal government can more effectively and efficiently protect the health and safety of workers and others.

TAME

OPPT issued an ECA on tertiary-amyl methyl ether (TAME) which may be used in the future in large amounts as a gasoline additive to enhance octane and reduce CO emissions. These test data will allow a comparison of MTBE and TAME toxicities, including the potential health impacts to gas purchasing consumers, and help gasoline formulators select the safer substance.

Cyclohexane

Cyclohexane is another example of a chemical for which an ECA was issued in FY95. Cyclohexane is a high production and high release chemical used both as an industrial intermediate in the production of nylon and as a solvent. While we don't have much data on this chemical, this high level of exposure prompted evaluation of potential health and environmental concerns. The ECA includes a number of testing requirements, although a more comprehensive toxicology testing program is on hold while the manufacturers try to reduce exposure levels. A unique feature of these negotiations is that the manufacturers have taken the unusual step of committing to work with their customers, industries that use cyclohexane to develop nylon products, to reduce the amounts of cyclohexane which they release to the environment based on the Toxics Release Inventory (TRI).

DGEBPA

OPPT's ongoing efforts to expand the overall use of its chemical testing program to achieve documentable progress by the industry in pollution prevention, waste minimization, risk communication and risk reduction can be exemplified by the ECA and companion Memorandum of Understanding (MOU) for the diglycidyl ether of bisphenol A (DGEBPA). This chemical is a high production volume epoxy compound used in a variety of both industrial and consumer applications such as coatings and strong adhesives. One of the original concerns with this chemical was a potential for cancer in exposed individuals. In addition to the ECA testing program, 3 DGEBPA manufacturers agreed to initiate a comprehensive

product stewardship program that includes comprehensive worker/consumer communication, safety training, product labels and literature revisions, exposure reduction activities and periodic progress reports to the Agency. Risk reduction can be accomplished much more quickly when we work in partnership with industry to address chemicals of concern such as DGEBPA.

RCF

In FY95, OPPT monitored the test data from a number of ECAs issued in previous years but for which the testing is still ongoing, such as refractory ceramic fiber (RCF). Industry agreed to workplace exposure monitoring studies in a 1993 ECA and developed a product stewardship program designed to evaluate, control and reduce workplace exposure to RCF. While the testing process can take years, it is important for OPPT to continually receive and monitor the data for health effects as we pursue risk reduction for workers and the public. In addition, the strides made by industry and OPPT to work together is a significant step toward risk reduction for many chemicals, such as RCF, a fiber shown to be carcinogenic in animal studies.

Test Rules

In FY 1995, we developed proposed test rules that would require testing for 9 substances for developmental and reproductive effects, and testing 21 substances identified as Hazardous Air Pollutants (HAPs) under the Clean Air Act. The data from these test rules are important because they will provide the Agency with vital information for further assessing the impacts of these chemicals on the environment and public health.

OPPT conducted timely assessments of data coming into EPA from a number of ongoing testing efforts. For example, we continue to assess data coming in under the TSCA Section 4 Dioxin/Furan test rule. This particular rule was issued because of the hazards posed by exposure to chlorinated and brominated dioxin/furan impurities that may be in some commercial chemicals. This test rule helps to identify which chemical processes produce high and which produce low amounts of these toxic byproducts and thus help lead to industry's adoption of safer technologies.

Chloranil is an industrial intermediate used in tire manufacturing and in the production of dyes and pigments. Based on initial screening and test data from an earlier test rule, risk assessments for workers using chloranil indicated significant cancer risks, mainly due to the high dioxin concentrations found in the chemical. In its risk management effort, EPA developed a multi-pronged strategy for achieving a complete industry-wide switch from high dioxin contaminated chloranil to low dioxin chloranil. While this is occurring, OPPT continues to monitor testing done by industry on chloranil.

OPPT will continue to develop testing actions by utilizing a mix of TSCA section 4 test rules, negotiated enforceable consent agreements and voluntary testing agreements. There appears to be an increased willingness on the part of many U.S. chemical companies to

conduct needed toxicological testing on the substances that they produce, import and process and to establish voluntary product stewardship programs for those chemicals. Our continued use of ECAs and voluntary testing agreements offers an increased role for voluntary pollution prevention and risk reduction measures as an offset to some testing by industry. Efforts are underway to improve public access to testing and other data submitted to OPPT as part of the existing chemicals and testing programs, and will be discussed in Chapter 4 of this report.

SCREENING INFORMATION DATA SET PROGRAM

OPPT also engages in international voluntary testing efforts to improve our understanding of chemicals and to reduce the number screening and testing actions required by EPA and U.S. industry. OPPT is working cooperatively with the Screening Information Data Set (SIDS) Program, a voluntary testing program operated under the auspices of the Organization for Economic Cooperation and Development (OECD), to "share the testing burden" on an international basis. SIDS focuses on developing base level test information on a set of over 1,000 international HPV chemicals. The SIDS data, which include basic chemical properties, environmental fate, environmental effects and health effects, are used to screen the chemicals and set priorities for further testing or risk assessment/management activities. Completed human health and environmental assessments are published in the United Nations' *International Register of Potentially Toxic Chemicals.*

In FY95, OPPT continued to participate in the SIDS Program, saving time and resources, as three quarters of the assessments are conducted by other countries. In addition, U.S. industry voluntarily provides the cost of testing when necessary, and prepares the assessment reports for U.S.-sponsored chemicals. The SIDS Program complements OPPT's Chemical Testing Program, saving resources in negotiating testing agreements and conducting assessments. Also, during FY95, the SIDS Program made information available to other countries that do not have the resources to conduct the assessments. Sharing this information moves the world closer to a potentially greater level of environmental protection and worker safety.

MANAGING RISKS

RISK MANAGEMENT STRATEGY

In order to protect human health and the environment, the Office has developed a strategy to identify, and then analyze, the chemicals that may pose risks to the nation. In FY95, OPPT screened approximately 600 chemicals. The risk management portion of the existing chemicals program is divided into RM1, RM2 and Post RM2 stages. Risk Management 1 (RM1), the first component, is designed to screen and select those chemicals likely

to be of greatest concern to human health and the environment. This stage generally takes 6 months. A total of 112 chemicals completed this first phase of the risk management process (RM1), and, given this stage typically takes 6 months to complete, an additional 8 entered RM1 and continued in the review process into FY96.

RM2 is the next step and takes approximately 12-24 months to complete. Here chemicals identified in RM1 are investigated and analyzed, and options are framed for reducing or eliminating the risk they pose. During FY95 the office completed 3 RM2 reviews. This brings the total to 23 comprehensive reviews since 1993. In addition to "completed" RM2 reviews, a half dozen chemical specific, use cluster activities and site specific efforts were underway in 1995. Several of the risk management actions involved information distribution and public understanding. A few cases that highlight these type of right to know efforts in FY95 are described in Chapter 4 of this report. In **Post-RM2**, which can range between 3 months and 2 years, OPPT implements one or more risk reduction actions recommended in RM2. Overall, these numbers represent a trend of a substantial increase in the number of chemicals reviewed and results achieved since the office shifted to the RM process in 1991. In real terms, this means we are able to manage and reduce actual and potential risks posed by exposure to existing chemicals more expeditiously and effectively.

RISK MANAGEMENT INITIATIVES

The following cases exemplify how OPPT has become creative in using a variety of tools such as community empowerment, government partnerships, voluntary agreements with industry, product stewardship, information products and outreach, pollution prevention, and goal setting, to promote safer chemicals, processes, and technologies.

Benzidine Dyes

EPA is concerned about the risk of bladder cancer to workers manufacturing or using benzidine-congener dyes. By spring 1995, OPPT had secured a voluntary commitment from the manufacturers of these dyes to sell them only in short containers. As a result, we expect a significant decrease of exposure to workers since the smaller containers will limit the potential for workers to inhale the dyes. We are currently negotiating with the few remaining distributors of these dyes, in an effort to encourage them to cease production and sale altogether, or to adopt the use of exposure controls through the use of safer technologies.

Paint Stripping Use Cluster

Nearly all chemicals in paint strippers are dangerous if used improperly. EPA looked at this use cluster to provide useable information to consumers. A voluntary partnership agreement has been reached with industry to improve customer information on proper handling of these products and on the hazards associated with them. A technical assessment occurring in FY95, and the subsequent findings document scheduled for completion in FY96, will provide key hazard and handling data for product labels and information. This effort is a

good example of how the use cluster cases consider one use of chemicals and examines all the chemicals that might be used for that product, and provides information to consumers in a meaningful way.

GSA Cleaners

The General Services Administration (GSA) is the largest purchaser and user of cleaning products, and is one of, if not the, largest employer of cleaning workers. In fall 1995, OPPT completed a project which collected information on safer substitutes for 19 cleaning products. The information helped GSA determine how to purchase and use environmentally preferable cleaning products in federal buildings, thereby reducing potential risks to thousands of cleaning staff, diminishing the negative impacts on the environment during the use and disposal of these products, and increasing the market demand for safer products.

Land Application of Pulp and Paper Mill Sludge

This project, completed in April 1994, illustrates OPPT's creative use of its regulatory authority to foster safer production processes through voluntary agreements, without imposing costly and time-consuming regulations. Sludge discharged from pulp and paper mills has historically been contaminated with highly toxic chlorinated dioxin generated during the bleaching process. Application of this sludge to land therefore poses significant risk of exposure to dioxin. If the dioxin risk is managed, however, sludge is a good soil supplement that retains moisture and controls erosion; it has often been used to help restore abandoned strip mining lands.

We negotiated a voluntary agreement with the American Forest and Paper Association (AFPA) and several individual pulp and paper mills. As a result of this process, participating mills must limit the land application of sludge contaminated with dioxins. Dioxin causes a variety of human health effects including effects on the immune and reproductive systems and cancer. Under the negotiated agreement: 1) Mills will monitor their sludge for dioxins; 2) Sludge with high levels of dioxin contamination will not be applied to land at all; 3) Application rates for sludge with lower levels of dioxin will be limited; 4) Mills will also observe agreed upon management practices at land application sites; 5) Mills will limit the distribution and marketing of sludge; and 6) Mills will keep records and submit reports to EPA.

The Agency is currently reconsidering its dioxin risk assessment and OPPT, in the meantime, is monitoring participation in, and the success of, the voluntary agreements. While the ultimate need for regulation will depend on both factors, to date significant risk reduction achievements have already been realized for those communities surrounding these mills.

EXPOSURE GUIDELINE LEVELS

OPPT also uses tools to promote safer chemicals, processes, and technologies. In FY 1995, OPPT completed the design of a cooperative public and private sector program to develop short-term exposure guidelines for highly toxic chemicals. Such guidelines are an

essential element of planning by industry and state and local governments to prevent and respond to emergencies resulting from chemical accidents. The current variety of exposure guidelines, established by various bodies using different criteria, complicates emergency planning, is underprotective, and imposes unnecessary costs.

Under the new cooperative program, OPPT will establish a National Advisory Committee for Acute Exposure Guidelines Levels for Hazardous Substances (AEGL Committee) to develop exposure guidelines using uniform criteria developed by the National Academy of Sciences. This cooperative effort, in keeping with the theme of reinventing government, should promote uniformity, efficiency, and cost effectiveness. In developing the concept of the AEGL Committee, OPPT solicited the support of other relevant federal agencies and private sector stakeholders.

STRUCTURE ACTIVITY TEAM

As in previous years, 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, was essential to the assessment of potential hazards, prioritization of large sets of chemicals and the identification of chemicals for which there are minimal hazard concerns..

In addition to the work accomplished with new and existing chemicals of concern to OPPT, during FY 1995, the SAT assisted EPA's Office of Solid Waste (OSW) by evaluating approximately 60 chemicals being considered for two hazardous waste listings under the Resource Conservation and Recovery Act (RCRA). The chemicals were evaluated for potential human health effects and environmental toxicity, and this evaluation was in turn used by OSW to prioritize hazardous waste listings. Currently, the SAT is evaluating some 1300 inert ingredients in pesticide formulations for EPA's Office of Pesticide Programs (OPP). The reviews will assist OPP in determining which inert chemicals are, or are not, of concern. These types of assessments can be critical to decision making for other offices within EPA.

OPPT also participated in a joint European Union (EU)/EPA study in 1995 to determine the validity of the structure activity relationship (SAR) methods employed by the SAT. The study concluded that the SAT was highly successful both in predicting the environmental fate and identifying potential toxicity of the chemicals. Since then, the SAT's methods have been studied by the EU and the Canadian, Japanese, and Australian governments. By sharing these methods, and others, we are moving toward global environmental protection.

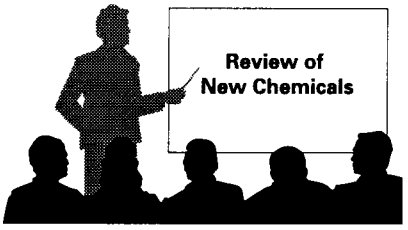
In discussing these models with the international community, EPA also worked with the U.S. chemical industry to share the SAR principles routinely used in evaluating new chemicals. This type of cooperation should result in the use of fewer toxic chemicals by helping industry predict the potential toxicity of chemicals.

REVIEWING NEW CHEMICALS

To close the loop on reducing risks from chemicals, OPPT is also responsible for the evaluation of new chemicals and newly developed genetically engineered organisms (bio-

technology). TSCA requires that EPA review, within ninety days, chemical information submitted by manufacturers to detect if newly developed chemicals pose a threat to human health and the environment.

In 1995, the new chemicals program reviewed over 2,300 premanufacture notices (PMNs). Although EPA can require testing of new chemicals, the common sense approach, based on over 15 years of experience, does not routinely require extensive testing on all substances before commercialization. Of the 2,300 chemicals reviewed, 44 were regulated with requirements for testing by the time a specific production volume was reached. In addition, the new chemicals program received testing data on another 41 substances prior to their commercialization. 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 64 significant new use rules were issued in 1995. These rules provide OPPT with the opportunity to review the interaction of the chemical in a different process and for different uses.



The new chemicals program is one of the Agency's premier risk management programs. It unique in that it serves a gatekeeper function where chemicals are evaluated for hazard and exposure potential to determine risk early in the life cycle before the chemical goes into commerce. Because of this role the program exerts great influence on the chemical industry to encourage the production and use of safer chemicals. Without the new chemicals programs we would face an increased risk of many harmful chemicals making their way into commerce, causing unnecessary harm and potentially massive cleanup costs. For example, in 1995, the Agency banned a new chemical substance that showed acute lethality at low dosage rates in animal tests. This chemical was to have been used in consumer products, and without the new chemicals review, may have ended up in products we use day to day.

In addition to reviewing PMN submissions for health and/or environmental risk, OPPT assesses the pollution prevented potential associated with PMN chemicals and their manufacture. An assessment team compiles a list of alternative technologies that reduce or eliminate pollution. Alternative technologies, which may include the use of alternative syntheses, feedstocks, reagents, catalysts, solvents, or reaction conditions, are proposed to companies for their voluntary consideration. In FY95, of the 100 submissions reviewed for this effort, the team identified approximately 25 opportunities to reduce or eliminate pollution to air, land and/or water. The office provided pollution prevention alternative technologies information to the manufacturers of these new chemicals, and has had more direct contact with a few of them. Since it can take years before the chemical substance goes to market, feedback on success of the alternatives is slow to return.

For several years OPPT has been grouping PMN chemicals with shared chemical and toxicological properties into categories so that both PMN submitters and EPA reviewers could benefit from the accumulated data and past decisional precedents, and reviews could

be streamlined. Throughout FY95 OPPT continued to develop new categories, refine the boundaries and definitions of existing categories, and engage the chemical industry in dialogue towards development of focussed testing programs on commercially promising chemicals. These efforts will provide OPPT more pertinent information for the new chemicals review process, especially as it relates to safer alternatives and more environmentally preferable chemicals.

Customer Service Standards

In FY95, the New Chemicals Program surveyed a subsection of its principal "customers" — manufacturers and importers of new chemicals — to assess their needs and satisfaction with the program's products and services. The survey was conducted as part of the federal government's National Performance Review and Executive Order No. 12862, "Setting Customer Service Standards." The customer survey provided important feedback concerning program strengths and areas for improvement, and represents a major first step in better understanding customer needs and level of satisfaction. Overall, customers provided vary positive performance evaluations for the new chemicals program. The results indicate a strong need to provide customers with the information and services they need to make environmentally sound decisions. OPPT plans to continue this dialogue with industry and interested others as it sets customer service standards and seeks continuous improvement in the quality of its products and services.

Environmental Technology Initiative for Chemicals

The new chemicals program has launched a project designed to reduce risk and the barriers to the development, introduction and use of safer chemicals and technologies. Known as the Environmental Technology Initiative (ETI) for Chemicals, this project has the following goals: (1) Offer industry the opportunity to work in partnership with EPA to explore new, non-traditional ways to manage risks; (2) Promote risk reduction within industry sectors by encouraging innovation—in chemistry, production technologies, handling/disposal practices—for all chemicals, both new and existing; (3) Refine EPA's understanding of the toxicity and risks associated with selected chemicals and use categories; and (4) Develop an information management infrastructure to enhance EPA's ability to identify risk reduction opportunities.

Product Stewardship Consent Orders

In recognition of the potential human health and environmental benefits presented by certain new chemical substances, in 1995 OPPT developed a new type of risk management tool, known as a product stewardship consent order, which incorporates elements of the Chemical Manufacturers Association's (CMA) Responsible Care program into TSCA section 5 risk management consent orders and significant new uses rules (SNURs). The product stewardship order contains provisions for monitoring occupational exposures; evaluat-

ing the effectiveness of exposure controls and hazard communication efforts; and extending safety training to most end-use customers. By providing greater independence and flexibility to companies in the handling and distribution of a new chemical, the product stewardship order should make entry into the commercial market easier while still controlling potential unreasonable risks associated with manufacture, processing, and use of a new chemical.

Biotechnology Rule and Activities

Biotechnology is a rapidly expanding area of scientific and commercial interest and activity. The number and complexity of biotechnology submissions to the TSCA biotechnology program are increasing, with many submissions involving microoganisms displaying relatively higher potential risk to the environment and human health than microorganisms reviewed at the inception of the program in the mid-80's. In FY 95 the program received and reviewed five biotechnology submissions.

Some new biological processes have the potential to supplant more hazardous chemical processes, e.g. in the manufacture of consumer dyes. Testing of genetically engineered microorganisms to degrade hazardous waste may further encourage development of bioremediation as an environmentally preferable alternative to traditional remediation technologies.

In FY95, important progress was made toward issuance of a final rule that will significantly streamline the regulatory process for microbial products of biotechnology, and that will reduce reporting burdens on the biotechnology industry. The proposed rule was issued in September 1994.

New Chemical Exposure Limits

In May 1995, OPPT released its new policy for generic New Chemical Exposure Limits (NCELs) for use in chemical specific consent orders under TSCA. The exposure limits offer engineering control alternatives to the use of respirators for companies that are required to protect workers from the inhalation of hazardous chemicals. EPA pursued this initiative for 2 main reasons: in response to industry's request to be consistent with OSHA's Permissible Exposure Limit (PEL) requirements; and for better worker protection. Since it takes time for new chemicals to come to market, we don't expect to see immediate results. However, once a chemical is in production under a NCELs standard, the new policy should mitigate inhalation risks to workers.

3.

Reducing Risk to the Public from Chemicals: Promoting Life Cycle Management

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 manufacture, processing, distribution in commerce, use, and disposal. Lead, asbestos, polychlorinated biphenyls (PCBs), and dioxin are leading examples of chemicals that warrant attention throughout their lifecycle. This chapter reviews OPPT's accomplishments in FY 1995 and the variety of tools we utilize to control the risks to the public from these chemicals.

LEAD

According to the Centers for Disease Control and Prevention, about one in eleven children in America have high levels of lead in their blood. The long term effects of lead in a child can be severe. They include learning disabilities, decreased growth, hyperactivity, impaired hearing, and even brain damage. Even children who appear healthy may have high levels of lead; that is why testing of children's blood levels is crucial. However, the Federal government's goal is for *primary* prevention - that is, to reduce lead hazards *before* children are poisoned. Effects of lead on adults include reproductive problems, high blood pressure, digestive problems, nerve disorders, and memory and concentration problems.

In the 1980's, as it became more apparent that lead posed particular dangers to children, the Agency began to take action on several fronts. Lead was phased out of gasoline. Lead levels were strictly controlled in drinking water fountains. In 1991, EPA issued an Agency-wide Lead Strategy that discussed all past efforts with respect to lead, and proposed a series of actions to further reduce lead hazards, including targeted action for reducing hazards to the public from lead-based paint.

In 1992, Congress enacted the Residential Lead-based Paint Hazard Reduction Act (known as Title X). Title X provides for a comprehensive national approach to dealing with lead-based paint in the nation's housing stock, with an emphasis on targeted abatement and in-place management of priority hazards rather than total abatement of all lead paint. The focus of Title X is on residential housing and other settings where children age six and under

are most likely to be exposed to lead-based paint. Title X also directs EPA and other federal agencies to develop the necessary infrastructure to eliminate lead-based paint hazards in residential housing.

LEAD ACTIVITIES RELATED TO TITLE X

OPPT initiated a series of steps to control lead-based paint hazards; many of these activities became mandates when Title X was enacted. The central theme of Title X is to empower citizens to inform themselves and to have in place State, local and private delivery systems to allow them to act to protect their children and themselves.

Lead Model Plan for States & Tribes

As directed by Title X, the government should ensure that persons conducting lead-based paint activities are adequately trained to perform work, such as inspecting for lead-based paint, supervising lead-based paint abatement, and conducting risk assessments of lead-based paint hazards in residential housing and child-occupied facilities built before 1978. Throughout 1995, OPPT continued work on a national lead training and certification regulation, which includes a Model Plan to help states develop and implement their own lead certification programs. Certification involves successful completion of an approved training course, and passage of a third-party certification exam. The use of third-party exams will ensure that all certified persons possess a minimum level of knowledge in the field, and will allow for a standard exam acceptable to all states. EPA is aiming to have a third-party examination system ready and available for use by early 1997.

From the outset, OPPT closely coordinated development of the Model Plan with the states. The states will have two years from the August 1996 publication of the final rule to develop their own training and certification programs.

Over the next two years, OPPT expects to review and approve lead training and certification programs in states, as well as in the territories and tribal lands. In states and other areas of the country that do not adopt lead training and certification requirements, EPA will administer the federal program. In combination with the other components of Title X, the Agency believes that a qualified and certified workforce will play a major role in eliminating and reducing lead-based paint hazards.

State Grants

To develop and implement authorized state lead certification programs, state grants were awarded to applicants in three major categories: (1) development of a new state lead program; (2) implementation of a new lead program; and (3) modification of an existing state lead program. During FY 1995, $12.5 million in grant money was allocated to states for this purpose of which $1.5 million was set aside for funding tribes.

Lead Disclosure Rule for Housing

Throughout FY 1995, OPPT worked with the U.S. Department of Housing and Urban Development (HUD) and the public to develop a lead real estate disclosure rule that would meet public needs while not imposing undue burdens on the real estate community. This rule will require sellers and landlords of pre-1978 housing to: (1) disclose known information regarding lead-based paint and lead-based paint hazards; (2) provide purchasers and renters with an EPA pamphlet on lead hazards entitled "Protect Your Family From Lead in Your Home;" (3) allow home buyers a 10-day opportunity to finance and conduct a lead-based paint inspection or risk assessment for lead-based paint hazards; and (4) attach warning and acknowledgment language in contracts and leases. This information will help families make informed housing and lifestyle decisions to reduce their risk of exposure to lead hazards. The final rule on lead disclosure was published in March 1996.

Section 1015 Advisory Task Force

OPPT was a member of Title X's Section 1015 Advisory Task Force on lead-based paint hazard control and financing in private housing. The Task Force report, *Putting the Pieces Together: Controlling Lead Hazards in the Nation's Housing*, was issued on July 11, 1995. The major responsibilities of the Task Force included recommending actions to ease home loans for abatement activities and resolving problems associated with obtaining liability insurance for abatement contractors. The Task Force recommended using market incentives and controls, public subsidies for economically distressed units, flexibility for state and local offices to tailor the recommendations to fit their special needs, and several other reinforcing strategies, including public education and additional research

To obtain a copy of "Protect Your Family From Lead In Your Home," or "Reducing Lead Hazards When Remodeling your Home," call the National Lead Information Center Clearinghouse at 1-800-424-LEAD. Copies are available in English and Spanish.

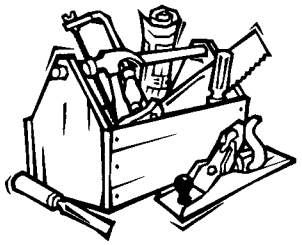
Publications

OPPT produced a brochure in May 1995 entitled, "Protect Your Family From Lead In Your Home," to be given to purchasers and renters of dwellings in conjunction with the lead disclosure rule, to renovation and remodeling customers in conjunction with another regulation underway, and also made available to the general public. The brochure describes lead hazards and simple steps families can take to protect themselves from lead-based paint hazards. After several focus group reviews, the brochure is now available in English and Spanish.

During the summer of 1995, Home Depot, a national hardware chain store, distributed flyers containing information from OPPT's brochure "Reducing Lead Hazards When Remodeling your Home," to inform owners and occupants of target housing of potential hazards of lead-based paint exposures prior to conducting renovations. OPPT was pleased to work with Home Depot and hopes to duplicate this achievement with other national and regional hardware stores.

National Hotlines

The **National Lead Information Center** serves as a national information dissemination center for the public to obtain general information about lead poisoning and prevention. The EPA, the Department of Housing and Urban Development, and the Centers for Disease Control and Prevention jointly fund this Center. The automated Hotline, **1-800-LEAD-FYI**, is available 24 hours a day, seven days a week in English and Spanish. Callers are mailed a basic information packet on lead, available in either English or Spanish. The packet includes the EPA brochure, "Lead Poisoning and Your Children," fact sheets, and a list of state and local lead contacts for additional information. The Hotline refers callers with specific questions to the **Clearinghouse**, which is staffed by trained information specialists who can answer specific questions on lead-related issues in English or Spanish. Specialists provide on-phone technical assistance to a variety of constituencies, including the general public, government agencies, industry and abatement professionals. The Clearinghouse, **1-800-424-LEAD**, open Monday through Friday from 8:30 am to 5:00 p.m. ET, provides relevant informational materials, including federal publications, selected journal articles, a quarterly newsletter entitled *Lead Inform*, and other publications. Callers can receive information on laboratories qualified to test for lead in soil, paint, and dust; referrals to federal, state, and local agencies; and updates on lead-related federal laws and regulations. In addition, the Clearinghouse loans a number of videos on different aspects of lead and lead poisoning and has a speakers' bureau of over 400 names of volunteer speakers nationwide available to speak at schools, community organizations, etc., about lead issues.



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. The results of this study will provide the information needed by EPA to determine if R&R workers require training and/or certification. This study has been conducted in phases. In Phase I, settled dust and air samples were collected during and after R&R activities were performed. In Phase II, blood samples from R&R workers (not the same set of workers used in Phase I) were collected and analyzed for lead. While the results showed little evidence of *blood-lead* concentrations for the R&R workers above the permissible lead level set by OSHA, the amount of *lead dust* available for the workers to inhale while conducting some of the activities exceeded the permissible level set by OSHA. Also, the data indicated that occupants 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. This is important information not only for R&R workers, who may not use proper protective equipment when working, *but also* for homeowners, since their exposure to lead may be increased when these activities are performed in their homes. Reports for Phases I and II are expected to be available by the fall of 1996 thru the National Lead Information Center Clearinghouse (1-800-424-LEAD). Phase III is on-go-

ing and will examine occupant exposure by determining if R&R activities are associated with children's elevated blood-lead levels. A report on Phase III is scheduled to be available by winter 1996.

National Lead Laboratory Accreditation Program

Title X directs EPA to determine if a nationwide voluntary accreditation program exists for laboratories analyzing lead samples, and if not, to establish a certification program which would set uniform standards for laboratories. EPA established the National Lead Laboratory Accreditation Program (NLLAP) in 1993. NLLAP sets minimum performance requirements for participating laboratory accrediting programs and the laboratories they accredit.

NLLAP recognizes laboratories with a demonstrated ability to test for lead in paint chip, dust, and soil samples. The program ensures the public of a nationwide program of uniform quality. To be recognized by NLLAP, a laboratory must participate in the Environmental Lead Proficiency Analytical Testing (ELPAT) Program and undergo a systems audit and an on-site visit. The systems audit must be conducted by a laboratory accrediting body recognized by EPA. At this time, more than 400 laboratories participate in the ELPAT Program. In FY 1995, 60 laboratories obtained recognition by NLLAP, bringing the total number of recognized laboratories to 74. A state-by-state listing of laboratories recognized by NLLAP can be obtained from the National Lead Information Center Clearinghouse by calling 1-800-424-LEAD.

OTHER LEAD INITIATIVES

EPA realizes that lead is also an international and an environmental justice problem and has, accordingly, undertaken a series of actions with our international partners and with environmental justice groups to further the goal of lead hazard reduction. In addition, the Agency has funded a series of worker training and public information facilities, technical studies, and a National Meeting with the states and tribes.

International Risk Reduction Efforts

OPPT has been working with the Department of State and other federal agencies to promote risk reduction efforts in international forums. Each of these efforts support priorities and actions the United States is pursuing domestically. One major effort is the Organization for Economic Cooperation and Development's (OECD) risk reduction program. The chemicals currently being reviewed under this program are lead, mercury, cadmium, methylene chloride and brominated flame retardants. In June 1995, the OECD countries accepted a voluntary agreement from the major producers of brominated flame retardants to limit manufacture and use to those products presently being manufactured and to conduct necessary toxicity testing on these products. Also in June 1995, the OECD countries accepted a voluntary agreement from the major producers of brominated flame retardants to

limit manufacture and use to those products presently being manufactured and to conduct necessary toxicity testing on these products.

On February 20, 1996, Administrator Carol Browner, signing for the United States, and the Environmental Ministers from other OECD Member countries adopted a *Declaration on Risk Reduction for Lead.* This Declaration is the first international agreement that addresses each of the major sources of lead exposure. In addition, to Member country commitments to progressively phase down the use of lead in gasoline, the Declaration also calls for definitive risk reductions measures related to children's products, paint, food packaging, ceramic ware and crystal ware, and other measures. The Declaration includes an industry agreement to implement a voluntary action program to further risk reduction measures within OECD and non-OECD Member countries. Ministers endorsed a related OECD Council Resolution linking Member countries Declaration to the OECD and calling for the OECD to monitor implementation of the Declaration.

Another international project with which OPPT is involved along with EPA Region 5 is the joint U.S.-Canada implementation of the Great Lakes Agreement, which calls for elimination of releases of chemicals such as lead and mercury into the Great Lakes. We are also working with Central and South American countries under the Summit of Americas' Partnership for Pollution Prevention initiative, and with Russia under an environmental agreement signed by the Vice Presidents of the United States and of Russia. This agreement is intended to help other countries limit or eliminate exposures to lead, and focuses initially on phasing out lead from gasoline.

National Meetings with States

EPA's first National Lead Conference was held in Fort Worth, Texas on December 5-7, 1994. Forty-nine states and 12 tribes were represented. The conference focused on developing and implementing state lead training and certification programs. Future meetings will be planned for 1996 since the training and certification regulations were promulgated in August of 1996.

Lead Training Courses

In FY 1995, OPPT completed a model course curriculum for persons wishing to become lead-based paint risk assessors — people who evaluate the risks associated with a variety of exposures to lead-based paint. This course is being used by the six EPA-funded Regional Lead Training Centers to train lead-based paint professionals to identify and control lead-based paint hazards. It complements other courses previously developed for inspectors, supervisors, and workers. These four courses can be used to train abatement professionals as required under the training accreditation and certification rule which was promulgated in August of 1996.

In addition, OPPT began to develop a model course curriculum for operations and maintenance staff; the curriculum should be completed in FY 1996. While not specifically

required under the training, accreditation, and certification rule, this course will be useful to professionals planning short-term and smaller-scale projects (e.g., installing a light switch on a wall covered with lead-based paint) that might involve lead-based paint hazards.

Lead Worker Training Grants

To ensure that the number of well-trained lead-based paint abatement workers increases at an acceptable rate, EPA has received $1.55 million in Congressional add-on funds to provide training grants to nonprofit organizations engaged in lead-based paint abatement worker training and education activities. For FY 1995, the Agency was particularly interested in funding nonprofit environmental justice organizations that provide training opportunities for minorities and low-income community residents. This approach will provide opportunities for communities to develop local lead abatement businesses employing area residents. Funds were provided to 13 organizations.

Regional Lead Training Centers

In 1991, EPA provided funding to support a network of Regional Lead Training Centers (RLTCs) through a cooperative agreement with the National University for Continuing Education Association (NUCEA). The network consists of six university-based centers and their consortium members located regionally around the country and is designed to make available a well-trained cadre of lead-based paint inspection and abatement professionals.

At the start of FY 1995, EPA funded each RTLC directly and tasked each center with a special activity that had previously been performed by NUCEA. These activities included the continuation of the quality assurance visits; publishing the bi-monthly newsletter of course schedules and lead-related articles; conducting monthly conference calls; and holding semi-annual Center Director meetings.

The RLTCs are currently teaching the EPA model courses: lead abatement worker, inspector, and contractor-supervisor. The recently developed risk assessor course has been piloted by the University of Maryland RTLC and is being offered at all RLTCs. Course fee waivers are available to state and local government personnel as well as to Native American tribes.

The following is a list of the EPA National Network of Regional Lead Training Centers and their phone numbers to call to register for a course:

- Northeast Regional Lead Training Center (University of Massachusetts at Amhurst): 413-545-5262
- Great Lakes Regional Training Center (University of Cincinnati): 1-800-207-9399
- Mideastern and Atlantic Regional Lead Training Center (University of Maryland, at Baltimore): 410-706-1849

- Southern Lead Training Consortium (Georgia Institute of Technology): 404-894-3806
- Mid-States Rocky Mountain Regional Lead Training Center (University of Kansas): 913-897-8513
- Western Regional Lead Training Center (University of California, San Diego): 619-534-6157

Lead Environmental Justice Initiative

Since lead is a particular problem in urban and low-income areas, OPPT is implementing the Lead Environmental Justice initiative to: (1) demonstrate that an effective, well-planned program can significantly reduce underprivileged children's blood lead levels; (2) demonstrate the utility and beneficial nature of public, private, and community cooperation in the prevention of childhood lead poisoning; (3) accomplish specific primary and secondary lead poisoning prevention tasks: blood lead screening, hazard reduction, and education; (4) assess and document the project's success and shortcomings by providing for careful evaluation and data collection; and (5) foster self-sufficiency through jobs creation and empowerment. In FY 1995, six grants were awarded jointly with the Department of Health and Human Services to state and local jurisdictions to develop community-based programs to reduce lead poisoning and create jobs in low-income communities. The grantees include:

- Philadelphia Childhood Lead Poisoning Prevention Program
- Chicago Childhood Lead Poisoning Prevention Program
- Milwaukee Childhood Lead Poisoning Prevention Program
- Missoula Montana Housing Authority Childhood Lead Poisoning Prevention Program
- Memphis Division of Housing and Community Development Childhood Lead Poisoning Prevention Program
- California Department of Economic Opportunity Childhood Lead Poisoning Prevention Program
- Alameda County Childhood Lead Poisoning Prevention Program

Low Cost Abatement

In accordance with a mandate under Title X, OPPT completed a report in July of 1995, *Review of Studies Addressing Lead Abatement Effectiveness*, which provides a comprehensive review of the scientific literature regarding the effectiveness of lead hazard reduction techniques. This report also assisted OPPT in formulating lead training and certification rule

which was completed in August of 1996. Copies of this report are available by calling the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

Various strategies for low-cost techniques to reduce childhood lead exposure are being examined by OPPT. FY 1995 saw the start of a collaborative effort with local health departments in Wisconsin to collect and analyze data on the effectiveness of various lead hazard reduction techniques. The results will assist federal, state, and local decision makers in selecting methods for lead hazard reduction.

Technical Studies

During FY 1995, OPPT and HUD performed a field evaluation to help develop federal guidance on testing paint for lead. The study focused on two field technologies used for testing lead in paint: portable X-ray fluorescence (XRF) instruments and lead-paint test kits. The study found that testing with XRF instruments, with laboratory confirmation for inconclusive XRF results, provides a viable way to test for lead-based paint. This approach satisfactorily detected lead paint on building components, such as walls, window frames and doors, etc. at the federal threshold of 1.0 mg/cm^2. Lead paint test kits were not recommended because these test kits could not discriminate accurately between lead-based paint and non-lead based paint nor could they determine the extent of lead-based paint in the home. The study recommends that decisions on repairs, renovations, or abatements should not be based on test kit results.

Studies are also being conducted on the effectiveness of: (1) low-cost repair and maintenance practices; (2) encapsulant products which coat lead-based paint to keep it in-place; and (3) a uniform method of sampling for lead in residential dwellings. These reports and studies can be obtained by calling the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

Multi-Media Whole House Environmental Justice Initiative

During FY 1995, OPPT began the Multi-Media Whole House Environmental Justice Initiative, an effort among offices in EPA and other federal agencies, designed to create tools (targeting data and integrated risk assessment training) for jointly handling several indoor and immediate outdoor household environmental hazards. These tools will help identify environmental health and economic development projects in targeted low-income and minority neighborhoods. The first step entails developing a technical training course that will enable certified risk assessors to recognize and address lead, asbestos, indoor air quality, and radon hazards as well as issues associated with homeowner efforts to more efficiently weatherize their residences.

The Cleveland Department of Health's Lead Program has been awarded a grant to field test these tools. Cleveland intends to use grant funds to train people to detect hazards in low-income, at-risk neighborhoods.

PCBs

In 1976, TSCA banned the manufacture, sale, and most uses of polychlorinated biphenyls (PCBs). The act directed EPA to set standards for PCB disposal, and oversee their enforcement. Since the ban, EPA has promulgated a number of major rules controlling the manufacture, distribution in commerce, and disposal of PCBs. EPA has also phased out high risk uses of PCBs.

PCBs are a group of synthetic chemicals that found applications in a variety of industrial, military, and commercial applications. PCBs were generally not used in household products except for fluorescent light ballasts and small electrical capacitors on electrical appliances such as refrigerators and air conditioners. Studies indicate that PCBs are possible human carcinogens and tumor promoters. Reproductive, developmental, and immunological effects have also been observed with PCBs. It was not until after tens of millions of pounds of PCBs were produced and released into the environment that scientists realized how persistent and potentially toxic they were.

PCB DISPOSAL AMENDMENT

EPA proposed PCB Disposal Amendments in December 1994. The proposal represented the first comprehensive review of the program in 16 years. OPPT staff made more than 20 presentations to outside groups on the proposal and received over 4000 comments. A final rule should be published in FY 1997.

This rule is one of five presidential initiatives being undertaken by OPPT as a central part of its reinvention program. The disposal amendments will provide the regulated community with flexibility and options for the disposal of PCBs, reducing regulatory burden and cost through the use of performance-based self-implementing disposal procedures. The amendments' goal is to eliminate duplicative Federal and State permits and administrative requirements, and harmonize TSCA PCB standards with the Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and other Federal statutes. The rule will also remove outdated requirements from the TSCA regulations. The regulatory innovations in this rule will allow OPPT to continue to provide the present high standards of protection of public health and the environment, while providing new savings of $4 billion annually to the regulated community, and encouraging the removal and disposal of PCB waste.

PROPER PCB DISPOSAL

OPPT issues PCB disposal approvals to qualified applicants to ensure that PCBs are disposed of safely and properly. We issued twenty-six approvals in FY 1995. These approvals increase the number of disposal options for the generators of waste, encourage disposal companies to improve disposal processes, stimulate competition among approval holders, and potentially result in lower disposal costs. Approximately 843 kilograms of PCB waste was

disposed of in 1994 (the latest year figures are available), which represents a 9% increase from the year before, and the largest amount of PCB waste disposed of since EPA began compiling records in 1990. OPPT anticipates that the addition of new disposal facilities and the additional disposal options presented by the Disposal Amendments will further accelerate the rate of cleanup and disposal of PCB waste.

TRILATERAL AGREEMENTS FOR PCB WASTE

In FY 1995, OPPT played a major role in an effort to enable transboundary shipment of PCBs within Canada, Mexico, and the United States, which will increase the amount of PCBs that can be removed and destroyed in a more economical, efficient, and environmentally safe manner. The Agency's concern was that PCBs near the Mexico/US border may potentially be mismanaged, creating health and environmental risks to US citizens. Allowing these imports will greatly reduce the risk posed by cross-border PCB and dioxin/furan contamination through spills, improper disposal, and long-range transport.

This cross-boundary initiative, conducted in the spirit of the North American Free Trade Agreement (NAFTA), provides an excellent model for future cooperative efforts to improve the environment. In 1996, the three countries plan to develop a Regional Action Plan that will enable the Canadians and Mexicans, both of whom have limited disposal capacity, to dispose of PCB wastes in the US, where extra capacity exists.

INTERIM RELIEF ON PCB EXPORTS

Current PCB disposal regulations ban the export for disposal, use, and distribution in commerce of PCBs in non-liquid uses. In December 1994, OPPT proposed amendments to the PCB disposal regulations to address the present ban on the international trade of excess ships for use and metal recycling which contain PCBs. Until these regulations are finalized, OPPT is working with other federal agencies to develop practical solutions to regulatory problems and grant enforcement discretion when appropriate. Both military and civilian ships will benefit from this interim relief.

ASBESTOS

Asbestos is a known carcinogen that causes several serious diseases in humans such as asbestosis (a fibrous scarring of the lungs), lung cancer, and mesothelioma (a cancer of the lining of the chest or abdominal cavity). Symptoms of these diseases typically develop over a period of years following asbestos exposure.

Commercial use of asbestos peaked between the 1940s and 1970s for uses such as insulation, fireproofing, and acoustical surfacing material. As a result of growing health concerns, certain types of asbestos material were banned in the mid-1970s. Typically, ser-

vice or maintenance workers become exposed to asbestos-containing materials (ACM) from boiler and machinery rooms. Asbestos may become hazardous and pose an increased risk when it is damaged or disturbed, or when it deteriorates and releases asbestos fibers into the air. Intact and undisturbed ACM in buildings generally does not pose a health risk to occupants or workers.

In general, the Agency's major asbestos regulations were promulgated under the authority of TSCA or under the Clean Air Act (CAA). TSCA regulations and guidance are administered and managed by OPPT, while the CAA regulations are the responsibility of EPA's Office of Air and Radiation (OAR).

ASBESTOS MODEL ACCREDITATION PLAN

EPA is responsible for ensuring that persons performing asbestos work are adequately trained to address and manage asbestos risks in buildings without jeopardizing the health of building occupants or the general public. EPA's current regulatory standards are found in the Asbestos Model Accreditation Plan (MAP), Interim Final Rule, which prescribes a training curriculum for persons who inspect for asbestos in schools, public, and commercial buildings, and also for persons who design or conduct asbestos abatement activities in such buildings. The standards require that persons performing this work complete an approved training program, pass a written test, and take an annual refresher training course to stay current with technological and regulatory changes impacting this industry. The training ensures that asbestos removed from buildings is managed or otherwise disposed of in a safe and environmentally sound manner.

In 1994, OPPT upgraded the MAP training requirements and set compliance deadlines for state accreditation programs, asbestos training course providers, and accredited persons. During FY 1995, OPPT focused on facilitating the transition from the previous national infrastructure standards to the new standards.

ASBESTOS TRAINING COURSES

Beginning in the late 1980s, OPPT developed five model asbestos training courses that meet the requirements outlined in the Asbestos MAP. The courses apply to five types of personnel: contractor/supervisor, inspector, management planner, project designer, and the asbestos abatement worker. During FY 1995, the contractor/supervisor, inspector, and management planner courses were updated by Georgia Tech, under a grant from OPPT. The revised model courses included changes required by the Final Interim MAP Rule published in February 1994 and OSHA's Asbestos Standard Rule. The abatement worker course is available in both English and Spanish. The English version may be purchased from the National Technical Information Service (NTIS) by calling 703-487-4650.

While not an EPA accredited course, an asbestos operations and maintenance model course became available in early 1996 and can be purchased from NTIS. This long-awaited course is important for maintenance workers who maintain asbestos in place.

ASBESTOS ABATEMENT TRAINING GRANTS

In 1995, Congress appropriated $900,000 for asbestos abatement training grants to ensure the national workforce contained a sufficient amount of properly trained asbestos workers. OPPT awarded grants to five labor-management trust funds to develop and/or conduct lead abatement worker courses.

These grants were awarded to labor-management trust funds because of their wide experience in worker training and the variety of occupations they represent. The Agency feels that considering the numbers of workers trained, the geographic dispersion of those workers and the caliber of training provided, these grants have a dynamic effect in providing improved management of asbestos-containing materials and safer abatement techniques in buildings throughout the country. The grantees trained approximately 5,300 persons during FY95.

Training Grantees

Engineers Research & Education Cooperative Trust
1125 Seventeenth St., NW
Washington, DC 200036

National Training Fund-Sheet Metal & Air Conditioning Industry
Edward F. Carlough Plaza
601 N. Fairfax St.
Alexandria, VA 22314

Roofers & Waterproofers-Research & Education Joint Trust Fund
1660 L St., NW
Suite 800
Washington, DC 20036-5603

Insulation Industry International Apprentice & Training Fund
1776 Massachusetts Ave., NW
Washington, DC 20036

Laborers - AGC Education & Training Fund
37 Deerfield Rd.
PO Box 37
Pomfret Center, CT 06259

DIOXIN

Dioxin is an extremely toxic chemical compound, unintentionally produced in trace quantities by a wide variety of industrial processes. EPA is in the process of a major reassessment of the scientific issues related to dioxin and OPPT has the lead this project. A draft reassessment was published in September 1994 and made available for public comment and peer review. The Science Advisory Board (SAB) gave a majority of the 2,000-page reassessment a favorable view; however, two of the most important chapters, dose response modeling and risk characterization, were identified as needing additional work before they could be endorsed. To aid in redrafting the risk characterization and in response to SAB recommendations, EPA is creating an expanded panel of outside scientists. Once revised, the two controversial chapters will be sent back to the SAB for a second review, with a target date of fall 1996 for completion and release of the full document. The Agency has committed to issuing a cross-media dioxin strategy to accompany the reassessment.

4.

Promoting Public Understanding and Right-to-Know

OPPT manages the Toxics Release Inventory, a publicly available, annual inventory 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.

Recognizing that public information is a vital link in improving public health and environmental protection, OPPT continues to find new and innovative ways to promote public understanding. In this chapter we discuss OPPT's efforts to empower the public with information, form partnerships, increase public awareness, and improve data quality and access. These initiatives encourage public involvement in decision-making as we strive to reduce the risks associated with chemicals.

EMPOWERING THE PUBLIC WITH INFORMATION

TOXICS RELEASE INVENTORY (TRI)

Following closely on the fatal chemical release accident in Bhopal, India, new provisions passed in 1986 under EPCRA were intended to assure that the presence, management and routine releases of toxic chemicals in the U.S. were well understood. It was evident that what happened in Bhopal could happen in the U.S. and in fact there were facilities in the U.S. where the same chemicals were manufactured, used and stored — but undisclosed to emergency response teams, state and local governments, and perhaps most importantly, the citizens who lived and shared common neighborhoods with these facilities.

At the core of these new provisions was the concept of a facility specific chemical based inventory. This inventory, termed the Toxics Release Inventory (TRI) created a national data base identifying facilities, chemicals manufactured and used at those facilities and the annual accidental and routine releases of these materials. This information, while commonly known by individual plant owners and operators, was not readily available to the federal government, state government, emergency preparedness teams or the general public, and usually did not become available until *after* serious accidents occurred or until major impacts on

human health and the environment were evident. This "after the fact" disclosure of information did little to help plan for or prevent such serious health and environmental impacts.

The first inventory was completed in 1987. Congress provided a core list of chemicals based on two existing lists: the New Jersey list of 159 chemicals, and the Maryland list of 278 chemicals. Together, these lists identified 300 chemicals and chemical categories. While all of these chemicals were high volume industrial chemicals that were released daily in huge quantities across the U.S., Congress recognized that some may not be appropriate for listing. To accommodate the need to remove chemicals that did not pose serious human health and environmental hazards, criteria for listing and delisting were stipulated as well as a process to assure that such actions could happen rapidly. Chemicals must be shown to demonstrate either acute or chronic human health effects or serious impact on the environment. Data must demonstrate these criteria are met, or a chemical may be removed from the list. In the absence to prove or disprove such a finding, the chemical must also be delisted.

The emission data provided by this *hazard based* list provides one essential component of the risk assessment equation. TRI was designed to be and continues to be hazard based. A core strength of TRI is the emissions data it provides to government, industry and the public to begin the risk assessment process. Without this starting point, for many, risk assessment becomes a shot in the dark.

TRI Expansion Initiatives

During FY 1995, OPPT undertook a number of major expansion activities for TRI. Expansion of TRI is an effort to provide more information to communities and contribute to the understanding of toxic chemical impacts on human health and the environment. EPA is seeking to protect and extend public right-to-know, in a manner that makes common sense.

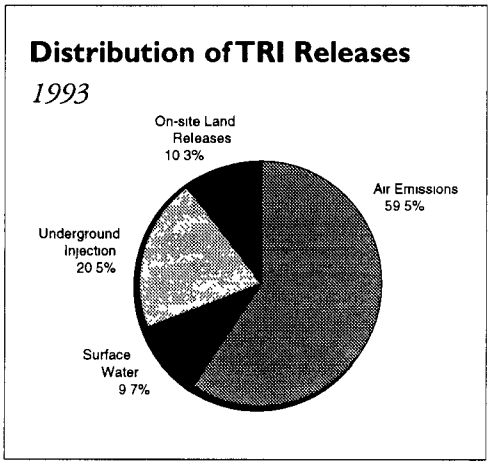
TRI's success in reducing toxic emissions and serving as a useful tool for all levels of government, industry, and the public has lead to great interest in expanding TRI. To increase public right-to-know, OPPT completed a major chemical expansion of the program, adding 286 additional chemicals to the reporting list on November 30, 1994. Information on these chemicals will become available to the public in FY 1997. A complete list of the chemicals is available from the EPCRA Information Hotline (1-800-535-0202).

OPPT has also moved forward on the development of a proposal to add additional facilities to the TRI, focusing on those sectors that are most closely aligned with the current manufacturing reporters and which are likely to be significant contributors to the release of TRI chemicals. EPA published a proposed rule on June 27, 1996 to add seven industry groups to TRI: Metal Mining [Standard Industrial Code (SIC) 10], Coal Mining (SIC 12), Electric Utilities (SIC 4911, 4939), Commercial Hazardous Waste Treatment (SIC 4953), Chemicals and Allied Products-Wholesale (SIC 5169), Petroleum Bulk Stations (SIC 5171), and Solvent Recovery Services (SIC 7389). A third phase of TRI expansion focuses on identifying additional data needs or "gaps" in the current TRI data that limit the public's ability

to actively participate in environmental decision making at the local level. As directed by President Clinton, EPA submitted a report to the White House on October 2, 1995, which summarizes EPA's plans to evaluate this initiative. EPA's report, *Expansion of Community Right-to-Know Reporting to Include Chemical Use Data; Phase III of the Toxics Release Inventory*, outlines how collecting information about chemical use would assist the public in environmental decision making at the local level. OPPT is in the very preliminary phases of this project and is actively seeking public involvement in this dialogue.

Annual TRI Data Release

Each year, EPA compiles national statistics and state overview data from the individual facility submissions. TRI gives the public direct access to information about toxic chemicals in their communities. This information is vital to the participation of citizens and businesses in improving environmental conditions across our nation.



In March 1995, EPA released the 1993 national TRI data to the public. The 1993 data showed that toxic chemical releases reported declined by 12.6 percent compared to 1992, to 2.8 billion pounds. Reported releases had declined by nearly 43 percent since 1988, the "baseline" year. Transfers of toxic chemicals to other locations for waste management increased 4 percent over 1992, to about 4.7 billion pounds. The amount of toxic chemicals in waste generated by facilities increased slightly for the second year in a row, to about 33.5 billion pounds. OPPT compiles each year a document which summarizes information about toxic chemical releases, transfers, and waste generated by manufacturing facilities in the U. S. Two volumes of the report are available: the *1993 Toxics Release Inventory Public Data Release* (full report and executive summary) and the *1993 Toxics Release Inventory Public Data Release State Fact Sheets.* To obtain a copy of either document call EPCRA Information Hotline (1-800-535-0202).

IMPROVING TRI INFORMATION PRODUCTS AND SERVICES

Right-to-Know Network (RTKNET)

OPPT has supported better public access to environmental information through a grant to Unison Institute for the Right-To-Know Network (RTKNET), an on-line, publicly-accessible network. The network is a tool to link industrial activities across regulatory reporting requirements, and to facilitate various kinds of national, regional and local analysis. RTKNET provides access to TRI data, health facts on each TRI chemical, and zip code links to Congressional districts. In addition to TRI data, there are important EPA data on OPPT existing chemicals documents; EPA facility identifiers; hazardous waste, air, and water data; and information about all of the civil cases brought by the EPA. The 1990 Census data on the network makes it possible to link socio-economic and pollution data. The network is

accessible by PC, via phone (toll-free), or Internet. It is developed and managed by a public interest organization with assistance from both private and public sector organizations. For more information and to get on-line, contact the Unison Institute at (202) 797-7200.

To locate TRI files on the Internet, use the EPA gopher, located at *gopher.epa.gov*. The National Library of Medicine offers access to the complete TRI database, either directly or via Internet (telnet to *toxnet.nlm.nih.gov*). RTKNET may be accessed on the Internet via telnet, gopher, or the Web using the address *rtk.net* and logging in as "*public*".

TRI Data Products

To fulfill its mandate under EPCRA, EPA must provide the public with access to TRI, along with tools for examining the data in a meaningful way. The CD-ROM is one of several formats in which TRI data are made available to the public. TRI data are also published in hard copy, on diskettes, and online via the Internet, the National Library of Medicine, and the RTKNET (mentioned previously), a public interest group funded in part by an EPA grant.

During 1995, the TRI CD-ROM was expanded and enhanced to include additional data (seven years in total) and to make installation and use easier. Many of these changes were made after listening to our CD-ROM customers, who include librarians and their patrons, researchers, industry, states, and associations. This audience is expanding rapidly, as CD-ROM becomes more popular for home and small office use. As the CD-ROM product has matured, searching capabilities have been expanded, new formats for downloading data have been added, and the documentation has been improved. The next version, including 1994 TRI data, will be available in the fall of 1996. The TRI CD-ROM may be purchased from the Government Printing Office for $38.00 (stock no. 055-000-00508-7).

TRI Education Package

OPPT is developing an education package for grades seven through twelve that will feature the TRI data bank as its centerpiece. This idea creates a partnership to increase community awareness of OPPT's products and services by targeting educational institutions.

To implement this project, OPPT is working in cooperation with the National Science Teachers Association (NSTA) to develop a curriculum with teachers' guide and student activities. The package will include printed materials, TRI data on CD-ROM, a short videotape and computer disk on TRI, online access information, and other classroom tools. During FY 1995, a test kit was mailed to an audience of 100 NSTA members to evaluate the kit. Based on recommendations from this group, NSTA will next convene a cross-curriculum group of experts to design the teaching guide and student activities materials. A major feature of these educational materials will be the use of TRI data.

FACILITATING TRI REPORTING AND DATA USE

Electronic TRI Data Submission

For the second year in a row, OPPT conducted an outreach activity designed to increase the number of TRI submissions received on diskette instead of paper. Receiving TRI data electronically increases the efficiency of data processing, decreases the data processing' costs and results in fewer data errors. Using the Toxics Release Inventory System (TRIS) to iden-

tify facilities that submitted the greatest number of paper copy reports, OPPT sent letters to these facilities and their parent companies outlining the advantages of magnetic media reporting. Results tabulated so far indicated an 11 percent increase, up from 52 percent electronic submissions last year to 63 percent in FY 1995.

Streamlined Reporting Requirements

On November 28, 1994, EPA streamlined the TRI reporting requirements for facilities whose annual reportable amount of a listed toxic chemical does not exceed 500 pounds. The annual reportable amount of a chemical means the total amount of a chemical released, disposed of, treated, burned for energy recovery, or recycled by the facility on-site or off-site. If a facility's annual reportable amount of a chemical does not exceed 500 pounds, and the facility does not manufacture, process or otherwise use that chemical in excess of one million pounds annually, the facility can take advantage of a less burdensome reporting alternative. Instead of filing a complete reporting form, the facility may file a certification statement. OPPT estimates that this alternative threshold will save industry more than $17 million annually in reporting costs without sacrificing information flow to the public.

OPPT believes that this rule strikes a positive balance between maintaining the community's right-to-know about toxic chemical releases, and the economic costs, both to EPA and the industry, of providing such information.

TRI Data Use Conference

OPPT sponsored the fourth TRI Data Use Conference, an event that brought together public interest groups, researchers, labor, industry, citizens and federal, state, and local officials. This FY95 conference set a record for the number of attendees, reflecting not only the diversity of TRI users, but the importance of TRI data to a growing number of citizens and sectors. Sessions were organized into three tracks: using TRI for pollution prevention, partnerships between TRI stakeholders, and innovative ways of using the data. For information about the next TRI Data Use Conference, call TRI User Support at (202) 260-1531.

TRI — "Train the Trainer" Tutorial

Through an ongoing cooperative agreement with the John Snow Institute in Boston, the Toxics Release Inventory "Train the Trainer" Tutorial is being presented to a selection of librarians. The training materials include a hard copy manual in a binder, 3.5" tutorial disks, and the TRI CD-ROM set. The workshops are intended to help build the community's environmental capacity by training professional librarians to act as knowledgeable resources in support of the public's use and understanding of the TRI. A simplified, more user friendly, windows version of the existing tutorial is in development and is intended to be used by students and in community-based environmental initiatives. The next phase in this project will be to transfer the methodology and materials to trainers in other parts of the country.

TRI-US Customer Standards and Service

In response to a White House Directive (Executive Order 12862), the Agency selected TRI-US as one of its seven pilots for customer service standards development and measurement. TRI-US is a hotline which provides general information about the Toxics Release Inventory and access to any of the data formats available. TRI-US staff specialists can help you determine the data product best suited for the individual user's needs and provide a limited amount of searches for TRI online and CD-ROM applications.

OPPT contracted with the National Opinion Research Center at the University of Chicago to conduct seven focus groups, in four targeted cities, with current and potential customers of the Toxic Release Inventory/User Support (TRI/US) Data and Hotline Service. The goals of the focus groups were to identify customers for these data and to determine the kind and quality of services customers have received or want to receive to help them use the data and products as measured against the following OPPT-formulated set of standards for the TRI/US products and services: Accuracy; Timeliness; Completeness; Awareness of availability; Accessibility; Understandability.

Results indicated that customers were very satisfied. Actual and potential customers suggested more product definition documentation and complementary risk information. OPPT is working to make TRI data available more broadly by providing access and information through CD-Rom products and the Internet.

ENSURING TRI DATA QUALITY

TRIS Modernization

During FY 1995, OPPT initiated a significant effort to re-engineer and modernize the Toxic Release Inventory Systems (TRIS). TRI data reside on several different computer platforms for data entry, quality assurance, and data access. Technology improvements from the system's original implementation in 1987 have not kept pace with improved computer technology. The modernization will utilize the most cost-effective new development technologies, and will be able to accommodate changing data requirements and provide better customer support. This project will be completed in time for processing the 1997 TRI submissions.

Identifying TRI Data Errors Efficiently

Errors in TRI data are identified through a series of computerized edit checks performed at the point of data entry. Previously, OPPT used legal Notices of Noncompliance (NON) as a first level of obtaining corrected information. This statute-enforcement process required review by EPA enforcement personnel, as well as the use of certified mail and tracking of the certified mail process, resulting in a costly and inefficient process for both EPA and the reporting facilities. In FY 1995, OPPT initiated a new process which eliminated 99 percent of all Notices of Noncompliance. The new process involves sending out a non-certified warning notice (or "Notice of Significant Error") which identifies the error and warns the

submitter that failure to correct the error within the specified time frame will result in the issuance of a Notice of Noncompliance. Since reporting facilities generally want to avoid the legal implications of a Notice of Noncompliance, the warning notice has been extremely successful at getting errors corrected and has decreased the cost of error notices by 50 percent from FY 1994, even with a similar workload.

OTHER INITIATIVES

TSCA Section 21 Petitions

TSCA section 21 allows any citizen to petition EPA to take action under various sections of TSCA. OPPT took action on two TSCA section 21 petition in FY 1995.

1. The New River, which flows north from Mexicali, Mexico into Imperial County, California, has been cited by various magazine and newspaper articles as one of the most polluted rivers in America. Since December 1993, EPA has received three petitions under TSCA section 21 from Imperial County, CA and local environmental justice groups. The petitioners raised concerns about the environmental and health impacts of the New River and requested action to monitor and clean up the river.

EPA issued subpoenas to 95 U.S. parent companies with facilities in the vicinity of Mexicali, Mexico. The subpoenas required the companies to provide information about the chemicals they release into the New River. During FY 1995, EPA evaluated the subpoena data and determined that there was no imminent hazard or unreasonable risk from chemicals identified in the letter or subpoena responses. EPA has also used the information gathered through this effort to inform the development and conduct of its monitoring program of the New River and has made the information available to the Agency for Toxic Substances and Disease Registry (ATSDR) for use in a health consultation. EPA continues to monitor the New River in order to identify additional sources of pollution. This information gathering effort will also ensure the community's right-to-know about local chemical hazards. OPPT has compiled and aggregated the data into a report, entitled *Summary of Information Collected from U.S. Parent Companies of Maquiladoras Relating to the New River,* which was made available to the public in February 1996.

In September 1995, OPPT also provided a community empowerment grant to assist communities most affected by pollution in the New River. The grant will be used to help create an organization to implement a community involvement and education strategy.

2. Another TSCA section 21 petition raised the issue of health concerns for workers using metalworking fluids. The petition requested EPA to issue a TSCA Section 4 rule to obtain test data on the components of these fluids. In April 1994, EPA announced that it did not accept the petition, but felt that the Agency would play a supporting role to OSHA and the National Institute for Safety and Health (NIOSH) once specific testing needs could be identified. Through participation in an interagency workgroup and the ONE Commit-

tee, OSHA, NIOSH and EPA have coordinated their actions. EPA has provided comments on the draft NIOSH Criteria Document, compiled a listing of all the substances used in metalworking fluids, and is completing an analysis of 22 high production volume chemicals for potential testing candidates.

A number of factors contribute to the complexity of this project. Since OSHA represents a primary client for testing data, OSHA's participation in the process is considered essential. However, it has been necessary to allow time for OSHA to determine priorities and its regulatory agenda. In December 1995, OSHA added metalworking fluids to the regulatory agenda, although whether resources are available for the work involved is still unclear for both EPA and OSHA. An important aspect of this project is the development of a "Framework for Cooperation" with OSHA and other regulatory agencies in order to use government resources more effectively.

Export Notification

TSCA section 12(b) requires exporters to notify EPA when they export or intend to export a chemical substance or mixture that is subject to certain regulatory actions under TSCA. Approximately 1100 chemicals are subject to this requirement. EPA is required to send the importing countries (through their local embassies or designated alternates) a notice of export, no later than five working days after receipt by the EPA Document Control Officer. A notice is only required for the first shipment of each chemical to a particular country in a calendar year. The notice identifies the regulated chemical, summarizes the regulatory action taken, identifies an EPA official to contact for further information, and includes a copy of the pertinent *Federal Register* notices. OPPT's volume of activity on 12(b) export notifications in calendar year 1995 is shown in the accompanying chart. Activity decreased starting in 1994 after the Agency promulgated a regulation requiring one-time, instead of yearly, notification for TSCA section 4 chemicals.

Export Notifications

- Notices received and processed 11,370
- Companies submitting notices 314
- Letters 1,529

FORMING PARTNERSHIPS

COMMUNITY PILOT PROJECT

In January 1995, OPPT embarked on an effort to develop a partnership among government agencies, businesses, and a community in the City of Baltimore. The framework for this partnership was agreed upon at a meeting with the Mayor of Baltimore, EPA officials, State of Maryland representatives, and community and business leaders on May 3, 1996. This partnership is aimed at piloting a new community-based approach to environmental protection which will build consensus at the local level and make it possible to address local

environmental concerns with local solutions. This project was kicked off in the summer of 1996. The project will be conducted in an industrial area of the city where residents face a large number and variety of potential environmental hazards. Issues of concern to be investigated may include lead-based paint exposures, air pollution (especially the impact of industrial truck), traffic, and industrial runoff.

The community will be encouraged to develop a working knowledge of environmental conditions, and to put these concerns in the context of overall environmental goals. All partners will participate in providing environmental education for the project according to their areas of expertise. The government partners will provide technical assistance (including analysis) for the community. The partnership model is intended to enable communities to become equal partners in managing their local environment. The project is expected to take approximately 18 months.

FORUM ON STATE AND TRIBAL TOXICS ACTION (FOSTTA)

Created in 1991, FOSTTA serves as a means for enhancing partnerships among EPA, the states, and tribes on issues related to toxic chemicals. FOSTTA comprises approximately 35 state and tribal environmental officials, who meet three times a year to exchange information and provide feedback to OPPT, EPA's Office of Enforcement Compliance and Assurance, and EPA's Regional Offices.

A primary objective of FOSTTA is to ensure that EPA programs and regulatory strategies are responsive to state and tribal concerns. During FY 1995, FOSTTA:

- Provided input on a critical component of EPA's Key Identifiers Project, a new comprehensive approach led by OPPT to improve information collection and public access to data.
- Assessed the utility of providing states with access to confidential business information data collected under TSCA, which is currently available only to EPA.
- Assisted with a proposed rule by providing input to ensure that lead-based paint abatement work is done safely and appropriately.
- Worked on ways to make OPPT's information resources available and useful to communities, so that citizens and local governments will be better equipped to identify, prioritize, and address their environmental concerns.

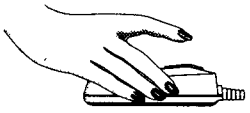
INTERNATIONAL EFFORTS

In 1992, participants at the United Nations Earth Summit in Rio de Janeiro, Brazil recognized the importance of TRI-type systems, known internationally as Pollutant Release and Transfer Registers (PRTRs), as valuable tools for pollution reduction and prevention. At present, the Netherlands, Canada, the United Kingdom, and the U.S. collect toxic release

information, although a number of other countries are developing TRI-type systems or considering doing so.

OPPT, on behalf of the U.S., has been supporting the development of PRTRs around the globe. In response to the 1992 Earth Summit, the Organization for Economic Cooperation and Development (OECD) agreed to develop a PRTR Guidance for Governments Manual, which countries could use as guidance for developing PRTRs. Also, the United Nations Institute for Training and Research (UNITAR) has been working to facilitate the establishment of TRI-like systems. As a training arm of the United Nations, UNITAR's role is to help industrializing countries implement environmental programs. OPPT has been working with UNITAR by providing financial, as well as informational support, for UNITAR's pilot programs in three nations—Mexico, Czech Republic and Egypt. In North America, OPPT is working independently with Canada and Mexico, and with the North American Free Trade Agreement's (NAFTA) Commission on Environmental Cooperation (CEC), on data sharing initiatives among the three countries. The increased international attention on emissions information collection underscores the important role that information collection plays in achieving environmental protection.

INCREASING PUBLIC AWARENESS



OPPT ON THE INTERNET

OPPT is providing its publications, reports, databases, rules, and meeting information, via the Internet to the Agency, its constituents, and the general public. Appropriate links to other sites are established as the information goes on-line. Large projects with varied kinds of information are being indexed and in a few instances web pages are under development to enhance accessibility of the information for the Internet user.

In this past year, office use of the Internet has become more widely accepted as a way of doing business, particularly with the reduction in staff and resources. Both the number of offerings and the linkages among them will continue to increase. OPPT information is provided on both the Agency's gopher and www sites, with the approval of an OPPT division director. The information uploaded includes a metadata record, that enables the Internet user to have a brief summary of the files before accessing or downloading any of the information.

The OPPT web homepage was restructured and the text version is available at the **http:/www.epa.gov/opptintr**. A graphics version of the OPPT web homepage will be available in the fall of 1996.

For more information on how to access information via the internet see **Section 5. Resources**, pages 62-64.

CHEMICAL FACT SHEETS AND SUMMARIES

OPPT is continually researching and reviewing the toxicity of chemicals and working on ways to communicate this information more effectively to the public. The Chemical Fact Sheets and Summaries are one of the avenues that OPPT is pursuing to educate the public and share information about chemicals. These Fact Sheets, which are written for a general public audience, contain brief descriptions (usually two pages) on each chemical and include information such as:

- a chemical definition, use and exposure routs;
- environmental fate;
- adverse health and environmental effects;
- regulatory laws pertaining to the chemical; and
- referral to federal groups for additional information

The Fact Sheets are complemented by the Summaries, which contain an expanded description (usually 10-20 pages) of a chemical and are written with a technical focus for people who want a more in-depth understanding of the chemical and its effects. The Summaries contain information on:

- chemical identity and physical/chemical properties;
- production, use and trends;
- environmental fate;
- regulatory action;
- EPA contacts for additional information;
- referral to federal groups for additional information; and
- Footnotes and bibliographic references.

In FY 1995, OPPT developed Fact Sheets and Summaries on the potential health and environmental effects associated with 20 TRI chemicals with the greatest releases. This is an expansion of our effort to communicate information about all TRI chemicals to the general public. OPPT is continuing to work on additional fact sheets and expects to complete another 20-30 during FY 1996. For copies, contact the TSCA Assistance Information Service at (202) 554-1404. These Fact Sheets and Summaries are also available via OPPT's homepage on the Internet. See Chapter 5 Resources for more information on accessing this information.

CULTURAL USES OF METALLIC MERCURY

Although mercury is an extremely potent neurotoxicant, especially to pregnant women, fetuses, and children, some Caribbean and Latin American cultures use the metal ritualisti-

cally — sprinkling it in homes and vehicles and burning it in candles for spiritual protection or for good luck. Working in conjunction with EPA's Regional Offices, states, national Hispanic organizations, and the U.S. Catholic Conference, OPPT developed a risk communication and public education campaign to notify the populations in question of the risks associated with cultural uses of mercury. In FY 95, This campaign used the Hispanic Radio Network to air a series of Spanish language radio broadcasts emphasizing the dangers of using mercury, and worked with various Hispanic groups to develop and distribute multilanguage fact sheets throughout the U.S.

CONSUMER LABELING INITIATIVE (CLI)

The focus of the CLI Project is to learn how to effectively present useful environmental, safe use, health, and other information on household consumer and pesticide product labels. The existing chemicals risk management team is working with several leading companies to obtain their consumer research data; utilize their expertise in interpreting market-related information; get advice on designing consumer focus groups; and obtain recommendations for improving labels. In addition to specific companies, in FY95, OPPT has assembled a Task Force of other federal and state regulatory agencies, including the Consumer Product Safety Commission, Federal Trade Commission, Food and Drug Administration, California and Vermont, the American Association of Pest Control Officials, and the Forum on State and Tribal Toxics Actions, to work on this project. We anticipate that this effort will result in more effective consumer product labels and a more informed citizenry.

SOLVENTS PROJECT

In addition to the public's awareness, the existing chemicals program is working to elevate industry's knowledge and understanding of chemical hazards. Regulations restricting the use of halogenated solvents to degrease and clean industrial metals have prompted a shift to aqueous cleaners. This shift is currently occurring without sufficient regard for the potential environmental hazards posed by these substitutes. To address this concern, OPPT is developing an *Aqueous Solvents Chemical Hazard Guide* to encourage industry to take environmental, as well as performance and cost considerations, into account as they make their decisions. OPPT distributed a draft guide to get industry input during 1995.

CHLORINATED PARAFFINS

Public understanding is also advanced through regulatory investigations carried out by OPPT, as exemplified by the Chlorinated Paraffins Project. Short chain chlorinated paraffins, used primarily in industrial cutting fluids, are toxic to certain forms of aquatic life and have been classified by the National Toxicology Program as probable human carcinogens. This issue first came to the attention of the Agency when the industry submitted the results of environmental effects testing conducted under TSCA Section 4.

The Agency's initial review of the test results suggested the need for a TSCA §6 rule to prohibit or severely restrict the use of short chain chlorinated paraffins by metal working facilities in order to protect aquatic life downstream. In our analysis of CPIA data, however, we determined that the original level of concern was overstated, and that given current industry practices, no restrictive regulations were necessary. Our 1995 analysis did conclude that discharges of short chain chlorinated paraffins should be reported to TRI, that OSHA should be apprised of the potential occupational risk, and that EPA Region 5 (which contains the heaviest concentration of industrial metal working facilities) should be advised of the potential risk of cancer to impoverished people who subsist largely upon fish they catch in local rivers.

CHLOROETHANE NEGOTIATIONS

Chloroethane causes cancer, and the data from the TRI revealed that large amounts of the chemical are produced and discharged into the environment. OPPT analysis identified occupational exposures as the major concern. We entered into negotiations with industry that led to voluntary re-labeling of foam products containing chloroethane. The new labels alert workers to the risks and provide them with information on minimizing exposure.

IMPROVING DATA QUALITY AND ACCESS

FACILITY IDENTIFICATION INITIATIVE

A report published in August 1994 by the National Advisory Council on Environmental Policy and Technology (NACEPT) recommended that EPA move toward comprehensive information-based resources management for data collected throughout the Agency. EPA responded to this recommendation with a number of different initiatives. OPPT has taken the lead on the Facility Identification Initiative, which is the first step in the President's initiative toward "One-Stop"reporting, an effort to streamline and consolidate EPA's collection and maintenance of environmental data. This effort is designed to streamline the collection of information by using a facility classification (referred to as"place-based"information) rather than the current systems of classification by regulatory authority and environmental medium, which makes linkage of data difficult to accomplish. Being able to integrate data across media is essential in order to comprehensively evaluate a facility's environmental performance.

EPA is considering options for establishing a national standard for the reporting and maintenance of information regarding the identification of facilities that are subject to federal environmental reporting and permitting requirements. EPA is examining various approaches, including rulemaking. The objective of the approaches being considered would establish a single, authoritative set of facility, place-based classifications for use by EPA, the

states, and the public. Establishing a standardized format will lead to improved efficiency in use of the reported data by EPA and its state partners. This effort will also improve public access, empowering citizens and industries to comprehensively plan for sustained ecosystems and increased environmental protection.

The Facility Identification Initiative has been underway since March 1995. OPPT staff have been meeting with state, industry, and environmental advocacy groups to discuss the Agency's approach. A Notice to collect comments on this initiative will be published in fall of 1996. This process will ultimately provide the foundation for consolidation of similar reporting requirements across EPA's environmental media programs.

REFORMING CONFIDENTIAL BUSINESS INFORMATION CLAIMS

The goal of the TSCA CBI Reform Program is to increase the utility of TSCA data both inside and outside the Agency. Information collected through the TSCA constitutes a unique and valuable resource on chemicals in commerce. OPPT's collection of health and environmental data on these chemicals is particularly useful. But access to this information has been limited, in large part, because of inappropriate CBI claims.

Through the TSCA CBI Reform Program, OPPT has initiated a series of efforts which are designed to insure that only that information which is actually CBI is claimed as confidential. Limiting inappropriate claims for CBI, increases the overall universe of information on toxics available for public review. OPPT is then also better able to explain to the public its chemical management priorities, and to make more health, safety and environmental information on chemicals in commerce available to the interested public. This in turn allows for more meaningful public participation in the Agency's chemical management efforts, and provides opportunities for empowerment to states, local communities and the public.

After receiving input from stakeholders, OPPT developed a final action plan in June 1994 that addresses ways for EPA to review Confidential Business Information (CBI) to reduce the number of inappropriate claims and increase the amount of information available to the public about toxics. The action plan describes in detail a series of voluntary and regulatory initiatives that will ensure that only information which is actually confidential is claimed as CBI. The plan is available to the public through the TSCA Hotline by calling (202) 554-1404.

Following are examples of how OPPT is implementing CBI reform, using both regulatory and voluntary approaches.

Regulatory Reform Initiative In November 1994, EPA proposed a series of regulatory amendments to ensure that the procedures for making CBI claims were consistent with TSCA and public right-to-know principles. The proposal is undergoing review and is expected to be completed during 1996.

Partnership with Industry In Fall 1995, the Chemical Manufacturers Association (CMA) sponsored a data declassification project designed to examine how a company's need to protect CBI data may diminish over time. The results of this project may be useful in any

Agency consideration of regulatory data declassifications. CMA has called the voluntary CBI reform efforts "a model of EPA/industry cooperation."

State Access The State Access Project arose out of the dialogue initiated on TSCA CBI Reform. States are EPA's indispensable partners in environmental protection. This Project is one of several vehicles OPPT is using to strengthen its relationships with state governmental chemical management organizations. TSCA does not provide for state access to information collected by EPA and claimed as confidential. Through the State Access Project, OPPT is exploring how state environmental programs might benefit from access to such data.

The impetus for this project arose out of the TSCA CBI Reform dialogue. Through this dialogue, OPPT became aware that the interested public, including environmental organizations, labor unions, industry, and states all supported the principle of state access to information claimed as confidential. Most of the participants in the dialogue considered it particularly inappropriate that information claimed as confidential about facilities located in states could not be disclosed to state officials.

In the Fall of 1995, OPPT initiated contracts with Georgia, New York, Illinois, and Wisconsin, giving these states access to all TSCA data — including TSCA CBI. By the terms of the state access contract, each of the contracting states will explore the issue of state access and report to EPA what if any value the TSCA data might have to state management programs.

8(E) TRIAGE DATABASE

TSCA Section 8(e) requires U.S. manufacturers, processors and distributors to submit information on chemicals to EPA that may indicate a substantial risk to health or the environment. OPPT has received approximately 13,500 of these notices, containing data on health and ecological effects of industrial chemicals. Using high hazard and high production volume as criteria, OPPT has screened the majority of these studies and determined that approximately one third of the studies indicate a high hazard concern.

The TSCA 8(e) Triage Database is a user friendly system that serves as a pointer system to significant health risk studies submitted under Section 8(e) of TSCA. The Database also provides abstracts for those studies which the results had indicated high production levels and high toxicological concern. Version 2.0, completed in FY95, contains information from approximately 10,000 studies and is available to the public via TSCA Hotline (202-554-1404) on diskettes and the EPA Gopher and World Wide Web Servers.

Version 3.0, targeted for release in FY97, will include an additional 4,000 studies. This revised product will present information on the remaining studies submitted under the Compliance Audit Program, as well as other studies submitted since 1992 that have been reviewed to date.

5.

Resources

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

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.

TSCA Hotline **202-554-1404**

The TSCA Assistance Information Service is available to answer general questions about the Premanufacture Notification process, the 33/50 program, and other TSCA programs. The hotline operates Monday through Friday, from 8:30 a.m. to 5:00 p.m. Eastern time. Requests for documents may be faxed 24 hours a day, to 202-554-5603.

Pollution Prevention Information Clearinghouse (PPIC) **202-260-1023**

PPIC is a distribution center for nonregulatory documents on pollution prevention emanating from OPPT and other EPA programs. PPIC maintains a telephone hotline for document orders and to refer callers to other EPA information resources. PPIC also serves as a repository for documents relating to pollution prevention, waste minimization, and alternative technologies. These are available for browsing in the EPA Headquarters Library during visitor hours (10:00 a.m. to 2:00 p.m. EST) and through EPA's Online Library System (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.

PPIC publishes a list of items available for distribution on a quarterly basis. For the most recent list, call (202) 260-1023. Hours of operation are Monday through Friday, 8:00 a.m. to 4:00 p.m. EST (24-hour voice mail). Fax: (202) 260-0178. E-Mail: ppic@epamail.epa.gov/

TRI User Support **(202) 260-1531**

TRI User Support provides access and support to TRI data in various formats, including printed reports, online databases, CD–ROMs, magnetic tapes, and computer diskettes. The services are provided Federal, state, local, and international governments, industry and trade associations, environmental and public interest groups, academia, and citizens. These services include providing general TRI information, TRI publications, searches, searching assistance, National Library of Medicine TOXNET online search training, CD–ROM training, referral to EPA regional or state TRI contacts, other TRI resource centers, and documentation support to all public access TRI products. For more information, contact: Lisa

Flemming, Information Management Division, OPPT, U.S. EPA (7407), 401 M Street SW, Washington, DC 20460, Tel: (202) 260-1531, Fax: (202) 401-2347.

Asbestos Ombudsman Clearinghouse/Hotline **800-368-5888**
(703-305-5938 within in the Washington metropolitan calling area)
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 business in complying with EPA regulations.

THE INTERNET

A wide variety of resources are available electronically through the Internet through several access mechanisms:

▶ **EPA World Wide Web Site** **(http://www.epa.gov)**
EPA's home page on the Web provides a wide variety of files, text, and graphics, as well as access to other remote "hot-linked" sites, including the Internet utilities listed below.

▶ **EPA Public Access Gopher** **(gopher.epa.gov)**
Gopher is a menu-driven, user-friendly interface allowing access to many different EPA resources.

▶ **EPA Listserver** **(listserver@unixmail.rtpnc.epa.gov)**
To obtain a listing of mail distribution lists available through the EPA Listserver (and then to subscribe to the desired mailing lists), send a message with the single word LISTS in the body of the message to the listserver address above.

▶ **EPA FTP server** **(ftp.epa.gov)**
The File Transfer Protocol allows users to log onto remote computers and download files, using Unix operating system commands. On accessing the EPA FTP server, enter the word "anonymous" at the first prompt and your e-mail address as the password.

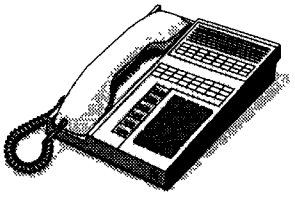
▶ **EPA Online Library System** **(epaibm.rtpnc.epa.gov)**
Access to holdings information for all 29 EPA Network libraries via the EPA Online Library System (OLS) is available through the Internet, using the telnet function.

Following is a listing of selected OPPT resources available on the Internet through the EPA Gopher, the FTP Server, or EPA's Web Site:

- *EPA TRI Public Data Release*: Text and Lotus (.wk1) spreadsheet files corresponding to the hardcopy version of the annual Public Data Release Report.
- *CORR (Chemicals on Reporting Rules)*: DBASE (.DBF) files which link TSCA chemicals to Federal Register notices.

- *EPA-TOX* (Listserver list): Latest Federal Register Notices related to TSCA and OPPT.
- *EPA-TRI* (Listserver list): Latest Federal Register Notices related to EPCRA.
- *OPPT Newsbreak*: A daily news summary of enviornmental and federal issues, produced by the OPPT library.
- *8(e) TRIAGE*: A text retrieval program providing access to TSCA Section 8(r) information and reports.
- *OPPT Chemical Fact Sheets.*
- *Pollution Prevention Directory*: An annotated listing of EPA and other federal programs, state programs, and other resources in pollution prevention.
- *Pollution Prevention News*: A bimonthly newsletter produced by OPPT with the latest pollution prevention information from EPA and around the country.
- *Cleaner Technologies for a Safer Future.*
- *Chemicals in Progress Bulletin*: A quarterly round-up of OPPT activities.
- *Chemicals in the Environment*: Public Access Bulletin.

OFFICE DIRECTORY



Office of Prevention, Pesticides and Toxic Substances	(202) 260-2902
Office of Pollution Prevention and Toxics	(202) 260-3810
Office of Program Management & Evaluation	(202) 260-1761
Chemical Screening & Risk Assessment Division	(202) 260-3442
Health & Environmental Review Division	(202) 260-1241
Chemical Management Division	(202) 260-1865
Chemical Control Division	(202) 260-3749
Economics, Exposure & Technology Division	(202) 260-0667
Information Management Division	(202) 260-3938
Environmental Assistance Division	(202) 260-1024
Pollution Prevention Division	(202) 260-3557