

**Environmental Protection Agency
2005 Annual Performance Plan and Congressional Justification**

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Environmental Protection Agency

FY 2005 Annual Performance Plan and Congressional Justification

Compliance and Environmental Stewardship

STRATEGIC GOAL: Improve environmental performance through compliance with environmental requirements, preventing pollution, and promoting environmental stewardship. Protect human health and the environment by encouraging innovation and providing incentives for governments, businesses, and the public that promote environmental stewardship.

Resource Summary (Dollars in thousands)

	FY 2003	FY 2004	FY 2005	FY 2005 Req. v.
	Actuals	Pres. Bud.	Pres. Bud.	FY 2004 Pres Bud
Compliance and Environmental Stewardship	\$662,042.0	\$712,907.9	\$750,556.9	\$37,649.0
Improve Compliance	\$395,964.4	\$418,998.2	\$431,695.1	\$12,696.9
Improve Environmental Performance through Pollution Prevention and Innovation	\$123,311.5	\$137,968.5	\$169,802.0	\$31,833.5
Build Tribal Capacity	\$70,556.6	\$78,759.3	\$78,931.1	\$171.7
Enhance Science and Research	\$72,209.6	\$77,181.8	\$70,128.7	(\$7,053.1)
Total Workyears	3,492.9	3,489.3	3,547.4	58.1

BACKGROUND AND CONTEXT

The underlying principles of the activities within Goal 5 are to improve environmental performance through compliance with environmental requirements, preventing pollution, and promoting environmental stewardship. Working in partnership with State and Tribal governments, local communities and other Federal agencies, EPA identifies and addresses significant environmental and public health problems, strategically deploys its resources, and makes use of integrated approaches to achieve strong environmental outcomes.

Enforcement and Compliance

The Agency is committed to implementing a “smart enforcement” approach to EPA’s mission of identifying, preventing, and reducing potential environmental risks and noncompliance and promoting greater voluntary environmental stewardship. This approach uses the most appropriate enforcement or compliance tool to address the most significant problems to achieve the best outcomes.

Smart enforcement embodies an integrated, common-sense approach to problem-solving and decision-making. Simply put, smart enforcement is the use of an appropriate mix of data collection and analysis; compliance monitoring, assistance and incentives; civil and criminal enforcement resources; and innovative problem-solving approaches; to address significant environmental issues and achieve environmentally beneficial outcomes. This approach requires

that the Agency develop and maintain strong and flexible partnerships with regulated entities and a well-informed public, in order to foster a climate of empowerment, and a shared responsibility for the quality of our nation's land, resources and communities.

Pollution Prevention and Innovation

While enforcement presents one tool for achieving the Agency's mission, the diversity of America's environments (communities, homes, workplaces and ecosystems) requires EPA to adopt a multi-faceted approach to protecting the public from threats that may be posed by pesticides, toxic chemicals and other pollutants. Throughout its history, EPA has taken the lead in developing and evaluating tools and technologies to monitor, prevent, control, and cleanup pollution. The emphasis of the Agency's programs in the 1970's and 1980's was to identify viable options for controlling or remediating environmental problems. Over the last decade, the Agency has turned its attention more and more to pollution prevention (P2) when addressing many important human health and environmental problems. A preventive approach requires that the Agency develop: (1) innovative design and production techniques that minimize or eliminate environmental liabilities; (2) holistic approaches to utilizing air, water, and land resources; and (3) fundamental changes in the creation of goods and services and their delivery to consumers. EPA remains committed to helping industry further prevent pollution by adopting more efficient, sustainable, and protective business practices, materials, and technologies.

The Pollution Prevention Act of 1990 establishes pollution prevention as a "national objective" and the pollution prevention hierarchy as national policy. The Act requires that pollution should be prevented or reduced at the source wherever feasible; that pollution that cannot be prevented should be recycled in an environmentally safe manner; and that, in the absence of feasible prevention or recycling opportunities, pollution should be treated. Disposal or other release into the environment should be used as a last resort. Pollution Prevention is generally more effective than end-of-pipe approaches in reducing potential health and environmental risks in that it helps identify voluntary programs which:

- Reduce releases to the environment;
- Reduce the need to manage pollutants;
- Avoid shifting pollutants from one medium (air, water, land) to another; and
- Protect and conserve energy sources and natural resources for future generations by cutting waste and conserving materials.

Increasingly complex environmental problems, such as the continuing accumulation of greenhouse gases; poor water quality; increasing urban smog; and inequities in building and maintaining water infrastructure; give rise to the need for EPA to develop and use a broader set of cross media tools. Shrinking state and Federal budgets also require the development of new ways to leverage partnerships with states, local communities and businesses to produce better environmental results at lower costs. EPA will work to ensure that governments, businesses and the public meet Federal legal environmental requirements, and will encourage and assist them to adopt environmental stewardship and to voluntarily exceed current requirements. Through public recognition, incentives, and sometimes relief from regulatory mandates, EPA will encourage environmental stewardship, behavior that goes beyond compliance with the laws.

EPA is committed to promoting innovation in strategies to protect the environment, including new less-polluting technologies. In FY 2002, EPA launched a comprehensive Innovations Strategy to drive innovation in all aspects of the Agency's work. Crafted with input from states and other stakeholders, the Strategy focuses on transforming EPA into a more innovative, results-oriented organization by:

Strengthening environmental partnerships, targeting priorities, expanding the current collection of tools, and creating a more innovative culture to effectively address challenging problems is what EPA's innovation strategy is all about.

- strengthening partnerships with states and Tribes;
- focusing on a set of priority problems that are in need of innovative solutions;
- developing tools and approaches that expand problem-solving capabilities; and,
- fostering an innovation-friendly culture and set of organizational systems.

The effectiveness of EPA's regulatory decisions depends on the analysis underlying these regulations, and the clarity with which they are presented. Their quality determines how well environmental programs actually work, and the extent to which they achieve health and environmental goals. Sound economic and policy analysis builds the foundation for EPA to meet its overarching goals, as well as to wisely use societal resources.

EPA's emphasis on economic and policy analysis supports the Agency's continuing effort to quantify the benefits of its air, land and water regulations, policies and programs. For example, determining the value of ecological systems and the benefits associated with preserving these systems will be critical over the coming years as the Agency strives to focus on healthy communities and ecosystems. Sound economic and policy analysis also supports EPA's stewardship and improved compliance goals by fostering consideration of alternative approaches, such as voluntary programs, innovative compliance tools, and flexible, market-based solutions. Sound economic and policy analysis helps EPA achieve results by documenting and communicating its decisions, thereby avoiding challenges to our analyses that might otherwise impede our ability to implement regulations, policies or programs.

Tribal Capacity

Since adoption of the EPA Indian Policy in 1984, EPA has worked with Tribes on a government-to-government basis that affirms the federal trust responsibility that EPA maintains with federally recognized Tribe and Tribal government. In terms of strengthening partnerships with Tribes, under Federal environmental statutes, the Agency has responsibility for assuring human health and environmental protection in Indian Country. EPA has worked to establish the internal infrastructure and organize its activities in order to meet this responsibility. The creation of EPA's American Indian Environmental Office (AIEO) in 1994 took responsibility for such efforts and was a further step in ensuring environmental protection in Indian Country.

Research

Today's environmental innovations extend beyond scientific and technological advances to include new policies and management tools that respond to changing conditions and needs. Examples include market-based incentives that provide an economic benefit for environmental improvement; regulatory flexibility that gives companies more discretion related to how specific goals are met; and disclosure of information about environmental performance. As a result of

these and other innovations, the nation's environmental protection system continues to evolve, with a focus on increased efficiency and effectiveness, and greater inclusiveness of all elements of society.

MEANS AND STRATEGY

Improving Compliance: A strong enforcement and compliance program identifies and reduces noncompliance problems; assists the regulated community in understanding environmental laws and regulations; responds to complaints from the public; strives to secure a level economic playing field for law-abiding companies; and deters future violations. The Agency carefully targets its enforcement and compliance assurance resources, personnel and activities to address the most significant risks to human health and the environment, and to ensure that certain populations do not bear a disproportionate environmental burden.

In FY 2005 the Agency will identify national priorities, in consultation with states and other regulatory partners, to most effectively and efficiently address significant environmental, public health, or noncompliance problems, and will use the most appropriate tool(s) to achieve the best outcomes culminating with the development and implementation of performance-based strategies for FY2005 - FY 2007 national priorities that take into account environmental justice considerations and a workforce deployment analysis.

The EPA will also promote compliance in core program areas by working within the agency and with our partners to address major problems in media-specific programs with the most appropriate tool(s) to achieve the best outcomes. These efforts will be aided by use of a facility "Watch List" that identifies facilities with chronic noncompliance problems. EPA will use compliance data to identify problems in need of EPA or state attention, to monitor performance of Regional and media-specific program elements, and to improve the effectiveness of the program by incorporating lessons learned into program operations.

The Agency's "smart enforcement" approach uses the most appropriate enforcement or compliance tools to address the most significant problems to achieve the best outcomes. This approach includes:

- **Compliance Assistance and Incentives:** The Agency's Enforcement and Compliance Assurance Program uses compliance assistance tools to encourage compliance with regulatory requirements and reduce adverse public health and environmental problems. To achieve compliance, the regulated community must first understand its regulatory obligations, and then learn how to best comply with those obligations. EPA supports the regulated universe by assuring that requirements are clearly understood, and by helping industry identify cost-effective options to comply through the use of pollution prevention and innovative technologies. EPA also enables other assistance providers (e.g., states, universities) to provide compliance information to the regulated community.
- **Compliance Monitoring:** The Agency reviews and evaluates the activities of the regulated community to determine compliance with applicable laws, regulations, permit conditions and settlement agreements and to determine whether conditions presenting imminent and substantial endangerment exist. The majority of work- years devoted to compliance monitoring are provided by the regions to conduct investigations, on-site inspections and

evaluations, and perform monitoring, sampling and emissions testing. Compliance monitoring activities are both environmental media- and sector-based. The traditional media-based inspections and evaluations complement those performed by states and tribes, and are a key part of our strategy for meeting the long-term and annual goals established for the air, water, pesticides, toxic substances, and hazardous waste environmental goals included in the EPA Strategic Plan.

- **Enforcement:** The Enforcement Program addresses violations of environmental laws, to ensure that violators come into compliance with these laws and regulations. The program achieves the Agency's environmental goals through consistent, fair and focused enforcement of all environmental statutes. The overarching goal of the enforcement program is to protect human health and the environment, targeting its actions according to degree of health and environmental risk. Further, it aims to level the economic playing field by ensuring that violators do not realize an economic benefit from non-compliance, and seeks to deter future violations.
- **Auditing and Evaluation Tools:** Maximum compliance requires the active efforts of the regulated community to police itself. EPA will continue to investigate options for encouraging self-directed audits and disclosures. It will also continue to measure and evaluate the effectiveness of Agency programs in improving compliance rates and provide information and compliance assistance to the regulated community. Further, the Agency will maintain its focus on developing innovative approaches, through better communication, fostering partnerships and cooperation, and the application of new technologies.
- **Partnering:** State, Tribal and local governments bear much of the responsibility for ensuring compliance, and EPA works in partnership with them and other Federal agencies to promote environmental protection. EPA also develops and maintains productive partnerships with other nations, to ensure and enforce compliance with US environmental standards and regulations.
- **NEPA Federal Review:** EPA fulfills its uniquely federal responsibilities under the National Environmental Policy Act (NEPA). NEPA requires that federal agencies prepare and submit Environmental Impact Statements (EIS), to identify potential environmental consequences of major proposed activities, and develop plans to mitigate or eliminate negative impacts. The Agency maximizes its use of NEPA review resources by targeting its efforts toward potentially high-impact projects, and by promoting cooperation, innovation, and working towards a more streamlined review process.
- **International:** EPA will continue to cooperate with states and the international community to enforce and ensure compliance with cross-border environmental regulations, and to help build their capacity to design and implement effective environmental regulatory, enforcement and environmental impact assessment programs.

Improving Environmental Performance through Pollution Prevention and Innovation: Preventing pollution through regulatory, voluntary, and partnership actions, that is, educating and changing the behavior of the public, is a sensible and effective approach to

sustainable development while protecting our nation's health. Two groups with significant potential to effect environmental change are industry and academia. The Agency has successfully implemented a number of pollution prevention (P2) programs with both of these groups. These programs address the market for products through the purchasing and supply chain, emphasize certain sectors for additional targeted technical assistance, provide support for State and Tribal infrastructure, and work to reduce the number and amount of toxic chemicals in use by finding alternative chemicals and alternative industry processes.

- **Environmentally Preferable Purchasing:** Because of the enormous span of private and public sector activities which would benefit from a prevention-based approach, EPA's P2 programs necessarily cover a wide variety of informational and capacity building activities. For example, the Agency works to improve the market for environmentally "greener" products through voluntary programs, the Environmentally Preferable Purchasing (EPP) Program, and the Green Suppliers Network. EPP provides guidance and carries out a variety of initiatives and outreach activities for a wide constituency, including federal agencies. Under the EPP Program, EPA will help purchasers identify those products that generate the least pollution, consume fewest non-renewable natural resources, and constitute the least threat to human health and to wildlife. The Green Suppliers Network enables large manufacturers to actively engage all levels of their supply chain in the development of good business approaches to prevent pollution.
- **Pollution Prevention State Grants:** The development and support of State infrastructure is essential for providing small and medium size businesses, government and schools with the opportunities to change and to test new technologies, processes and alternatives. A vital component of our strategy is the continuation of the Pollution Prevention State Grant Program. In FY 2005, EPA will provide \$7 million to States and Tribes to support their efforts to provide industry with technical assistance, information sharing, and outreach. The grants also support promising, innovative ideas for preventing pollution.
- **Technical Assistance:** Sector-based technical assistance is another method to accomplish our mission. The Resource Conservation Challenge is a major national effort to find flexible, yet more protective ways to conserve our valuable resources through pollution prevention, waste reduction and energy recovery activities that will improve public health and the environment. EPA is working to address environmental problems in the electronics, buildings, hospitals, paper production, and priority chemicals areas under this comprehensive approach. Similarly, in an effort to expand voluntary pollution prevention strategies to the healthcare sector, the Hospitals for a Healthy Environment (H2E) Program works with hospitals and health care facilities to eliminate mercury use and reduce hospital wastes.
- **Green Chemistry:** EPA works to help industry further prevent pollution by adopting more efficient, sustainable and protective business practices, materials, and technologies. EPA's Green Chemistry Program supports research and fosters development and implementation of innovative chemical technologies to prevent pollution in a scientifically sound, cost-effective manner. The Green Engineering Program works to incorporate "green" or environmentally conscious thinking and approaches in the daily work of engineers, especially of chemical and environmental engineers. Similarly, EPA's Design for the Environment (DfE) Industry Partnership Program promotes integration of

cleaner, cheaper, and smarter pollution prevention solutions into everyday business practices.

- NEPA Federal Review: EPA fulfills its uniquely federal responsibilities under the National Environmental Policy Act (NEPA). NEPA requires that federal agencies prepare and submit Environmental Impact Statements (EIS), to identify potential environmental consequences of major proposed activities, and develop plans to mitigate or eliminate negative impacts. The Enforcement and Compliance Assistance Program maximizes its use of NEPA review resources by targeting its efforts toward potentially high-impact projects, and by promoting cooperation, innovation, and working towards a more streamlined review process.
- Resource Conservation Challenge (RCC): This program focuses on recovering materials and energy, either by converting wastes into products and energy directly or as a result of process and product redesigns that produce these benefits. We will closely coordinate our RCC efforts with the Agency's other pollution prevention activities, potentially revising our strategies or targets to focus on materials and energy recovery through recycling when source reduction is not a feasible solution. The Agency is also working with its partners to identify additional goals that will reflect our expanded effort, beginning in 2003, to increase recovery of materials and energy and reduce releases of priority chemicals in waste. We expect these new goals to be in place by 2004, as the program becomes fully operational.
- State Innovation Grant Program: EPA will develop and promote innovative environmental protection strategies that achieve better environmental results at a lower cost and also reward environmental stewardship. In collaboration with its state and Tribal partners, the Agency will continue to focus its efforts on innovations that will help small businesses and communities improve both their environmental performance and their bottom lines. A cornerstone of the Agency's Innovation Strategy is reaching out to states and tribes through the State Innovation Grant Program to promote, support and facilitate innovation in state and Tribal environmental programs. The Grant Program allows states and tribes to test innovative ideas, such as using Environmental Management Systems in the permitting system to improve environmental results while achieving resource efficiencies.
- Regulatory and Economic Management and Analysis: EPA is exploring the potential for more integrated, holistic, regulatory and non-regulatory approaches at a facility level, building on experience with federal and State pilot programs for permitting and pollution prevention. EPA sees facility-wide approaches as holding the possibility of obtaining better environmental results, while eliminating unnecessary regulatory burdens. These approaches should help stimulate pollution prevention, and help facilities obtain the maximum benefit from use of environmental management systems. The Agency will augment programs such as EPA's National Environment Performance Track Program, which recognize and reward superior environmental performance and motivate improvements. Under its Sector Strategies Program, EPA will also tailor environmental performance improvement efforts to particular industry sectors.

- **Small Business:** EPA has undertaken an effort to review the current Agency Small Business Strategy. The new Strategy will guide the Agency in future efforts to understand the operations and needs of small businesses, consider those needs when developing and implementing programs and policies that affect them, and work effectively with the small business community to improve environmental performance.

Building Tribal Capacity: EPA's strategy for Tribes has three major components. First, work with Tribes to create an environmental presence for each federally recognized Tribe. An environmental presence allows most Tribes to support at least one or two persons working in their community to build a strong, sustainable environment for the future. These people perform vital work by assessing the status of a Tribe's environmental condition and building an environmental program tailored to that Tribe's needs.

Another key role of this workforce is to alert EPA of serious conditions requiring attention in the near term so that, in addition to assisting in the building of Tribal environmental capacity, EPA can work with the Tribe to respond to immediate public health and ecological threats. Second, provide the information needed by the Tribe to meet EPA and Tribal environmental priorities. At the same time, ensure EPA has the ability to view and analyze the conditions on Indian lands and the effects of EPA and Tribal actions and programs on the environmental conditions. Third, provide the opportunity for implementation of Tribal environmental programs by Tribes, or directly by EPA, as necessary.

Managing and Improving Environmental Data: Through the Environmental Information Exchange Network (<http://www.exchange.network.net>), EPA will continue to provide funding to states, tribes, and territories to encourage and promote their data integration efforts and participation in the Network.¹ These grants will allow states and tribes to create "next generation" environmental data systems that integrate air, water, and waste data and provide the regulated community with efficient and reliable electronic means for reporting compliance information consistent with the President's Management Agenda and the goals of e-Government.

The National Environmental Information Exchange Network grant program encourages state and other partners' data integration efforts and their participation in the Network. State, Tribal, and EPA data on the Network will both facilitate understanding of various environmental issues and serve as a precursor to understanding the data needed to fully comprehend environmental conditions and trends and, thus, make better-informed environmental and human health decisions.

This program has four main parts: Network Readiness; Implementation; Collaboration; and Support Grants. These grants will increase state and Tribal capacity to integrate their environmental data, reduce reporting burden, enhance electronic reporting, provide public access to data, and participate in the Exchange Network.

Enhancing Science and Research: EPA's Compliance and Environmental Stewardship strategic goal is designed to protect human health and the environment by improving environmental behavior through regulatory and non-regulatory means. Under this goal, EPA strives to use science and research more strategically and effectively to inform Agency policy decisions and guide compliance, pollution prevention, and environmental stewardship efforts. In order to strengthen the scientific evidence and research supporting environmental policies and

decisions, EPA works with its partners and stakeholders to identify research needs and set priorities. The Agency continues to conduct research on pollution prevention and new and developing technologies, with an overall aim of promoting conservation of energy and natural resources, pollution prevention, recycling, and other aspects of environmental stewardship.

EPA also conducts research to enhance its capacity to evaluate the economic costs and benefits and other social impacts of environmental policies. These efforts, undertaken in concert with other agencies, will result in improved methods to assess economic costs and benefits, such as improved economic assessments of land use policies and improved assessments for the valuation of children's health, as well as other social impacts of environmental decision-making.

The Agency will also continue to characterize, prevent, and clean up contaminants associated with high priority human health and environmental problems through the development and verification of improved environmental tools and technologies. EPA will incorporate a holistic approach to pollution prevention by assessing the interaction of multiple stressors threatening both human and environmental health, and by developing cost-effective responses to those stressors. Research will also explore the principles governing sustainable systems and the integration of social, economic, and environmental objectives in environmental assessment and management. Emphasis will be on developing and assessing preventive approaches for industries and communities having difficulty meeting pollution standards. In a broader context, the pollution prevention research program will continue expanding beyond its traditional focus on the industrial sectors to other sectors (e.g., municipal) and ecosystems. The P2 research program will also focus on developing outcome goals to measure its performance.

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

STRATEGIC OBJECTIVES AND FY 2005 ANNUAL PERFORMANCE GOALS

Improve Compliance

By 2008, maximize compliance to protect human health and the environment through compliance assistance, compliance incentives, and enforcement by achieving a 5 percent increase in the pounds of pollution reduced, treated, or eliminated,¹ and achieving a 5 percent

¹"Pounds of pollutants reduced, treated, or eliminated" is an EPA measure of the quantity of pollutants that will no longer be released to the environment as a result of a non-complying facility returning to its allowable limits through the successful completion of an enforcement settlement. (Facilities may further reduce pollutants by carrying out voluntary Supplemental Environmental Projects.) On-line compliance information is available to the public via ECHO, at <http://www.epa.gov/echo/>.

increase in the number of regulated entities making improvements in environmental management practices.² (Baseline to be determined for 2005.)

Improve Environmental Performance through Pollution Prevention and Innovation.

By 2008, improve environmental protection and enhance natural resource conservation on the part of government, business, and the public through the adoption of pollution prevention and sustainable practices that include the design of products and manufacturing processes that generate less pollution, the reduction of regulatory barriers, and the adoption of results-based, innovative, and multimedia approaches.

Build Tribal Capacity

Through 2008, assist all federally recognized Tribes in assessing the condition of their environment, help in building their capacity to implement environmental programs where needed to improve Tribal health and environments, and implement programs in Indian Country where needed to address environmental issues.

Enhance Science and Research

Through 2008, strengthen the scientific evidence and research supporting environmental policies and decisions on compliance, pollution prevention, and environmental stewardship.

HIGHLIGHTS

Improving Compliance

The Compliance Assistance Program strategically targets areas where regulated entities demonstrate an incomplete understanding of how they can best comply with regulatory requirements. The Agency's support of industry and government sector internet-based Compliance Assistance Centers greatly expands the reach of EPA's compliance assistance efforts. It provides educational tools and other assistance, such as workshops and on-site visits, to help increase understanding of regulatory obligations, improve environmental management practices and reduce pollution.

Other tools that are used include compliance incentives, voluntary programs, and innovative approaches designed to motivate better environmental compliance and performance by individuals, communities, businesses and industry sectors. The Agency promotes self-policing and improvement through incentives, such as EPA's Audit, Small Business and Small Local Governments policies and the inclusion of environmental management systems in enforcement actions.

²"Environmental management practices" refers to a specific set of activities EPA tracks to evaluate changes brought about through assistance, incentives, and concluded enforcement actions. Implementing or improving environmental management practices—for example, by changing industrial processes; discharges; or testing, auditing, and reporting—may assist a regulated facility in remaining in compliance with environmental requirements. Further information on environmental management practices is available at www.epa.gov/compliance/resources/publications/planning/caseconc.pdf.

The Agency will continue to work with states and tribes to target areas that pose risks to human health or the environment, display patterns of noncompliance, or include disproportionately exposed populations. Media-specific, industry sector and problem-based priorities will be established for the national program, and will be developed in conjunction with the Regional offices, with input from states, tribes, environmental justice representatives, and other stakeholders.

The Agency's Forensics Support Program provides technical support, including field sampling and measurement; forensic analytical chemistry; and computer forensic imaging, restoration and analysis. The forensics team consistently provides high-quality data and analyses, allowing the Agency to successfully investigate and prosecute the nation's most complex criminal and civil enforcement cases.

Improving Environmental Performance through Pollution Prevention and Innovation

In the 1990's, through the Pollution Prevention Act, Congress formally established a national policy to prevent or reduce pollution at its source whenever feasible. The Act defines P2 as "...the use of materials, processes, or practices that reduce the use of hazardous materials, energy, water, or other resources and practices that protect natural resources through conservation or more efficient use."³

Major provisions of the Act include:

- Providing matching funds for State and local P2 programs through the PPIS grant program to promote P2 techniques by businesses
- Establishing a P2 strategy outlining the Agency's intent to promote source reduction and collect data on source reduction
- Operating a source reduction clearinghouse
- Mandating P2 reporting as part of TRI

There are also several Executive Orders that address Pollution Prevention. For example, Executive Order 13101, titled Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, strengthens federal mandates to protect the environment and promote economic growth through the purchase of environmentally preferable products.⁴ Using the purchasing power of the federal government is one way to help improve the market for environmentally preferable, recycled content, and bio-based products while protecting our natural resources and providing an example for private industry.

The Executive Order (EO) defines "environmentally preferable" as "products or services that have a lesser or reduced effect on human health and the environment when compared with competing products and services that serve the same purpose." The EO also states that products or services should be compared across the entire life cycle – from raw material acquisition to its final disposal at its end of life. EPA has several responsibilities under the EO, including

³ Pollution Prevention Act. *U.S. Code* Title 42, The Public Health and Welfare, Chapter 133, sec. 13101 b. Policy.

⁴ Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition - 63 *Federal Register* 49643. September 16, 1998.

developing guidance on environmentally preferable purchasing for federal agencies, and assisting federal agencies with conducting and documenting pilot projects. EPA has also developed tools to assist federal purchasers, including a database of environmental standards, case study of federal pilot projects, model contract language and other resources.

Reducing pollution at its source involves two types of changes in behavior: making the greener products available, and increasing the demand for them. The Environmentally Preferable Purchasing (EPP) Program works to harness the purchasing power of government to stimulate demand for “greener” products and services, thereby fostering manufacturing changes. In FY 2005, the P2 program will shift resources to state grants and other P2 programs, which have shown significant results. The P2 research program will be evaluated to improve its performance and contribution to the Agency’s P2 efforts.

In FY 2005, the Agency also will continue to identify environmental performance standards by which products can be evaluated, and invest in the development of tools, such as life-cycle analysis tools that businesses and purchasers can use to evaluate the environmental performance of products. In FY 2005, the Agency will continue to focus on providing tools, resources and models to federal agencies on a number of product categories, including electronics, janitorial services, and meetings/conferences. EPA will also continue its efforts to meet its own goals to green its own facilities and operations, including purchasing.

The voluntary Green Suppliers Network (GSN) builds on the premise that cost effective manufacturing, pollution prevention and environmental protection can be the result of good business planning and practice. The GSN uses the purchasing power of the private sector to achieve pollution prevention and manufacturing efficiencies throughout the supply chain. In FY 2005 the GSN will continue to develop and enhance partnerships with the aerospace, healthcare/pharmaceutical, office/home furniture, farm and construction, and automotive sectors. The Agency expects to explore GSN with other federal agencies, replication of the program internationally, and working with new sectors, such as the truck/bus and appliance manufacturing sectors.

Through voluntary partnerships with academia, industry, and other government agencies, Green Chemistry supports fundamental research in environmentally benign chemistry and provides a variety of educational and international activities, including sponsoring conferences and meetings and developing tools. The Presidential Green Chemistry Challenge Award Program recognizes superior achievement in the design of chemical products, and continues to quantitatively demonstrate the scientific, economic, and environmental benefits that green chemistry technologies offer.⁵ In FY 2005, the program will explore ways to increase the number and effectiveness of incentives, and to reduce the barriers to mainstreaming green chemistry practices.

Traditionally, engineering approaches to pollution prevention have been focused on waste minimization and have not addressed such risk factors as exposure, fate, and toxicity. EPA’s Green Engineering Program promotes consideration of these factors in the design, commercialization, and use of chemical products and the development of feasible, economical

⁵ U.S. EPA, Office of Pollution Prevention and Toxics, *Green Chemistry Challenge*. Accessed October 1, 2003. Available at <http://www.epa.gov/greenchemistry/index.html>.

processes that minimize generation of pollution at the source. In FY 2005, the program will focus on the implementation of specific activities that provide quantifiable environmental benefits, particularly in industrial applications. The program will continue to partner with research institutions on their green engineering/sustainable research projects and collect data on the application of Green Engineering approaches and tools, with an emphasis on gathering information from people and organizations that have already received green engineering training and have adopted green engineering approaches.

The Design for the Environment Program will continue to work with industry sectors to reduce risks to human health and the environment, improve performance, and save costs associated with existing and alternative pollution prevention technologies or processes. In FY 2005, the program expects to initiate one to three new projects. The program will also implement, as part of any new partnership building activities, evaluation guidelines for developing and collecting measures, building on program-wide analysis and evaluation that will be completed in FY 2004.

Pollution Prevention State Grants provide funds to build pollution prevention strategies into State government environmental protection programs, encourage innovative and non-regulatory pollution prevention solutions and encourage government/industry partnerships. Pollution Prevention State Grants are unique within EPA because they address cross-media and multi-media environmental impacts at the source, rather than end-of-pipe.

The Agency's innovation programs are demonstrating significant results. For example, in FY 2003, The Performance Track Program added 61 new members, bringing the total number of members to 320. The Program's first progress report showed that in FY 2001 Performance Track facilities reduced energy use by 1.1 million MMBTUs, reduced hazardous materials use by 908 tons, and increased their use of recycled and reused materials by 10,823 tons. (www.epa.gov/sectors/)

EPA expanded its partnerships with industry sectors in FY 2003. Eight new sectors (agribusiness, cement manufacturing, colleges and universities, construction, forest products, iron and steel manufacturing, paint and coatings, and ports) committed to work collaboratively to improve environmental management while also addressing regulatory and other barriers to improve performance and increase efficiencies. (www.epa.gov/sectors/)

Past performance demonstrates remarkable progress in delivering results. For example, in FY 2003, EPA assisted more than ten states in continuing support of twenty-one innovative projects approved in previous years and in approving eight new innovative projects. These projects achieved a broad range of efficiency gains by: enhancing the infrastructure to recycle electronic waste, streamlining permitting, better coordinating non-point and point sources to meet Total Maximum Daily Loads, supporting streamlined state authorization procedures, and improving compliance monitoring for small drinking water systems. These projects' also invested in less energy demanding alternative technology at pulp and paper facilities, alternative landfill technology to increase landfill capacity, and increased recycling of hazardous wastes.

During the same year, EPA also awarded grants to three states to test innovative concepts in permitting. First, the funding provided under the State Innovation Grant Program allowed the State of Arizona to develop a web-based, "intelligent" screening and permit application

program for storm water permits that will increase the efficiency of the permitting process. Second, Delaware will develop an auto body sector Environmental Results Program (ERP) modeled after other state ERP projects, such as Rhode Island and Florida. The Delaware ERP project expects to significantly improve environmental compliance in hundreds of small businesses state-wide. Third, Massachusetts will develop a watershed-based permitting program to improve water quality on a National Heritage Waterway.

The Environmental Results Program model that originated in Massachusetts has expanded to seven other states and the District of Columbia with projects being implemented across seven business sectors: dry cleaners, printers, photoprocessors, auto repair facilities, auto salvage yards, auto body shops, gasoline stations (underground storage tanks and Stage II vapor recovery systems).

Research

In FY 2005, the Agency will continue its systems-based approach to pollution prevention, which will lead to a more thorough assessment of human health and environmental risks and a more comprehensive management of those risks. EPA will improve FY 2005 performance measures to prevent pollution at its source and continue to evaluate a small set of environmental technologies through the Environmental Technology Verification (ETV) program. ETV is a voluntary, market-based verification program for commercial-ready technologies. In FY 2005, the ETV program will complete 15 additional verifications and two testing protocols. In addition, the program will evaluate whether verifications and testing protocols have led to increased use of environmental technologies.

Additionally, through the National Environmental Technology Competition (NETC), based on results from field demonstrations of one-year in duration, EPA will recognize innovative technologies that cost-effectively remove arsenic from drinking water to help small communities meet the new arsenic drinking water standard. Other work includes research on market mechanisms and incentives that will support investigations that explore the conditions under which financial and other performance incentives will achieve environmental objectives at a lower cost or more effectively than traditional regulatory approaches.

EXTERNAL FACTORS

The Agency's Enforcement and Compliance Assurance Program's ability to meet its annual performance goals may be affected by a number of factors. Projected performance could be impacted by natural catastrophes, such as major floods or significant chemical spills, requiring a redirection of resources to address immediate environmental threats. Many of the targets are coordinated with and predicated on the assumption that state and Tribal partners will continue or increase their levels of enforcement and compliance work. In addition, successful conclusion of EPA's enforcement relies on the Department of Justice to accept and prosecute cases. The success of EPA's activities hinges on the availability and applicability of technology and adequate resources to modernize and maintain our information systems. Finally, the regulated community's willingness to comply with the law will greatly influence EPA's ability to meet its performance goals.

Other factors, such as the number of projects subject to scoping requirements initiated by other federal agencies, the number of draft/final documents (Environmental Assessments and Environmental Impact Statements) submitted to EPA for review, streamlining requirements of the Transportation Equity Act for the 21st Century (TEA-21), and the responsiveness of other federal agencies to environmental concerns raised by EPA, may also impact the Agency's ability to meet its performance goals. The NEPA Compliance workload is driven by the number of project proposals submitted to EPA for funding or NPDES permits that require NEPA compliance, including the Congressional projects for wastewater, water supply and solid waste collection facility grants which have increased in recent years.

In the area of pollution prevention, the Agency's work is almost entirely dependent on voluntary partnerships, collaboration, and persuasion, since there are few environmental regulations that set specific source-reduction requirements. The Design for the Environment Program seeks partnerships with industry trade associations to engage jointly in the development and marketing of products that generate less pollution. The Green Chemistry Program challenges industry and the academic community to step forward with new chemical formulations that pose fewer risks to human health and the environment. EPA's strategy of "greening the supply chain" depends on the willingness of large manufacturers to voluntarily require their suppliers to provide environmentally preferable products. These efforts all depend on our partners' continued willingness to cooperate in joint endeavors that may not realize an immediate payoff. EPA's ability to carry out its voluntary pollution prevention initiatives could be reduced if partners begin to believe that the initiatives are not worthwhile, are too risky, or are otherwise contrary to their best interests. Historically however, this has not been the case, and the Agency and industry have worked well together to reduce pollution.

Finally, our evolving user community will also affect the success of our information efforts. As more states and Tribes develop the ability to integrate their environmental information, we must adjust EPA's systems to ensure that we are able to receive and process reports from states and industry under Agency statutory requirements. Local citizens' organizations and the public at large are also increasingly involved in environmental decision-making, and their need for information and more sophisticated analytical tools is growing. Further, shrinking state budgets have underscored the critical need for the State Innovations Grants Program.

EPA's policy has been, and continues to be, that Tribes develop the capability to implement federal programs themselves. However, in working with Tribes, EPA has realized that "Treatment as a State" (TAS) may not suit the needs of all Tribes. Some Tribes with acute pollution sources and other environmental problems may be too small to support fully delegated or approved environmental programs. Other Tribes are wary of seeking TAS status because it may lead to costly litigation that may in turn lead to a diminishment of Tribal sovereignty. In the absence of EPA-approved Tribal programs, EPA generally faces practical challenges in implementing the federal programs in Indian Country. EPA will continue to encourage and work with Tribes to develop their capability to implement Federal environmental programs.

Achieving our objectives for Indian Country is based upon a partnership with Indian Tribal governments, many of which face severe poverty, employment, housing and education issues. Because Tribal Leader and Environmental Director support will be critical in achieving this objective, the Agency is working with Tribes to ensure that they understand the importance

of having good information on environmental conditions in Indian Country and sound environmental capabilities. In addition, EPA also works with other Federal Agencies, the Department of Interior (US Geological Survey, Bureau of Indian Affairs, and Bureau of Reclamation), the National Oceanic and Atmospheric Administration, the Indian Health Service and the Corps of Engineers to help build programs on Tribal lands. Changing priorities in these agencies could impact their ability to work with EPA in establishing and implementing strategies, regulations, guidance, programs and projects that affect Tribes.

Strong science is predicated on the desire of the Agency to make human health and environmental decisions based on high-quality scientific data and information. This challenges the Agency to perform and apply the best available science and technical analyses when addressing health and environmental problems that adversely impact the United States. Such a challenge moves the Agency to a more integrated, efficient, and effective approach of reducing risks. As long as high quality science is a central tenant for actions taken by the Agency, then external factors will have a minimal impact on the goal.

Environmental Protection Agency

FY 2005 Annual Performance Plan and Congressional Justification

Compliance and Environmental Stewardship

OBJECTIVE: Improve Compliance

By 2008, maximize compliance to protect human health and the environment through compliance assistance, compliance incentives, and enforcement by achieving a 5 percent increase in the pounds of pollution reduced, treated, or eliminated, and achieving a 5 percent increase in the number of regulated entities making improvements in environmental management practices. (Baseline to be determined for 2005.)

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Improve Compliance	\$395,964.4	\$418,998.2	\$431,695.1	\$12,696.9
Building & Facilities	\$3,312.5	\$5,158.7	\$4,149.5	(\$1,009.2)
Environmental Program & Management	\$346,291.1	\$371,655.6	\$383,218.7	\$11,563.1
Hazardous Substance Superfund	\$16,436.1	\$13,056.6	\$15,116.8	\$2,060.2
Inspector General	\$1,475.2	\$1,827.3	\$1,910.1	\$82.8
Science & Technology	\$268.0	\$0.0	\$0.0	\$0.0
State and Tribal Assistance Grants	\$28,181.5	\$27,300.0	\$27,300.0	\$0.0
Total Workyears	2,555.4	2,529.4	2,587.4	58.0

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Categorical Grant: Pesticides Enforcement	\$20,341.8	\$19,900.0	\$19,900.0	\$0.0
Categorical Grant: Toxics Substances Compliance	\$5,229.8	\$5,150.0	\$5,150.0	\$0.0
Categorical Grant: Sector Program	\$2,609.9	\$2,250.0	\$2,250.0	\$0.0
Compliance Monitoring	\$56,567.5	\$58,155.0	\$62,216.7	\$4,061.7
Criminal Enforcement	\$40,448.5	\$38,076.8	\$39,990.7	\$1,828.9
Enforcement Training	\$4,661.5	\$4,038.6	\$4,058.1	\$19.5
Compliance Incentives	\$9,589.0	\$9,257.2	\$9,370.7	\$113.5
Compliance Assistance and Centers	\$25,054.3	\$27,205.8	\$27,759.1	\$553.3
Civil Enforcement	\$100,366.7	\$108,318.4	\$113,030.5	\$4,712.1
International Capacity Building	\$1,460.7	\$1,051.5	\$862.4	(\$189.1)
Homeland Security: Critical Infrastructure Protection	\$4,181.1	\$3,901.9	\$3,972.4	\$70.5
Administrative Projects	\$125,453.6	\$141,693.0	\$143,219.5	\$1,526.5
TOTAL	\$395,964.4	\$418,998.2	\$431,695.1	\$12,696.9

FY 2005 REQUEST

Results to be Achieved under this Objective

The Enforcement and Compliance Assurance Program has been the centerpiece of the Agency's efforts to provide a deterrent to pollution by ensuring compliance with environmental laws and regulations, and has achieved significant improvements in public health and the environment. The Enforcement and Compliance Assurance Program works together with states and tribes to identify and address violations of environmental statutes and regulations. By improving compliance with standards, permits and other established requirements, environmental problems and their associated risks are either mitigated or avoided altogether.

The universe of private, public, and federal facilities regulated by the Agency under the various statutes is extremely large and diverse. The EPA will maximize its effectiveness by strategically targeting its compliance and enforcement activities to address significant risks to human health and the environment, and those that impose a disproportionate burden on certain populations. A strong compliance and enforcement program achieves environmental protection by identifying noncompliance problems, holding violators accountable, and deterring future violations, while ensuring a level economic playing field for all regulated entities.

State, Tribal, and local governments bear much of the responsibility for ensuring compliance. EPA will continue its efforts to cooperate with these entities, as well as other federal agencies, to promote environmental protection. Further, EPA will cooperate with other nations to enforce and ensure compliance with international agreements affecting the environment. These activities will also ensure a level economic playing field in an increasingly global trading system.

The Enforcement and Compliance Assurance Program employs a "smart enforcement" approach to achieve its goals of cleaner air, purer water, and better protected land. Smart Enforcement is the use of the appropriate enforcement and compliance tools to address significant problems to achieve strong environmental outcomes. The Agency employs integrated strategies that use data analysis, compliance assistance and incentives, monitoring, and civil and criminal enforcement to achieve environmental results.

In FY 2005, the Agency's Enforcement and Compliance Assurance Program will measure its performance not only in terms of outputs such as number of inspections, enforcement actions and compliance assistance activities, but also in terms of outcomes such as pollutants reduced, increased understanding of regulatory requirements, and improved facility practices. The FY 2005 Annual Performance Plan contains annual goals and measures to show improved compliance and positive behavioral changes resulting from compliance assistance and enforcement efforts. These measures complement traditional enforcement and portray a more complete picture of the results of the Enforcement and Compliance Assurance Program.

The President's Management Agenda has put increasing emphasis on programs' use of performance measures, particularly outcome measures, and the use of efficiency measures. OMB's Program Assessment Rating Tool (PART) program reviews, started in FY 2002, are now the primary mechanism for measuring the performance of federal programs. The PART guidance for FY 2002 and FY 2003 identifies the need for programs to have long-term and annual efficiency measures. OMB is also using the PART assessment to determine the success of an

Agency in integrating budget and performance; one of the five areas in the President's Management Agenda. PART assessments of the Civil Enforcement Program were completed in FY 2002 and FY 2003. These assessments are to be reflected in the FY 2004 and FY 2005, process. A PART assessment of the Criminal Enforcement Program was completed in FY 2003.

For FY 2005, the civil and criminal enforcement programs will use pounds of pollutants reduced per FTE for both program's efficiency measures. Since achievement of the civil and criminal enforcement program's annual and long-term goals are highly dependent on the enforcement cases concluded in a given year, there can be significant variability in a measure from one year to the next. To partially address this variability, this efficiency measure is based on three-year rolling averages.

In FY 2005, the Office of Enforcement and Compliance Assurance will increase its enforcement staffing level by 54 FTE. This increase will ensure that the enforcement and compliance assurance program continues to address significant environmental problems, to obtain the best environmental outcomes (e.g., reducing pollutant loadings from the environment) for the public. These resources will also increase the velocity of compliance through the use of integrated strategies--compliance assistance, compliance incentives, and enforcement-- to achieve compliance.

Compliance Assistance

The Compliance Assistance Program provides information, training and technical assistance to the regulated community to increase its understanding of all statutory and regulatory environmental requirements, thereby gaining measurable improvements in compliance and reducing risk to human health and the environment. The program also provides tools, training and assistance to other compliance assistance providers, enabling them to more effectively help the regulated community comply with environmental requirements. The program will continue to develop and implement integrated compliance assurance strategies to support improving compliance within specific industrial, commercial and government sectors, or with certain regulatory requirements.

EPA will continue to develop compliance assistance tools and provide these to the regulated community, utilizing stakeholder workgroups comprised of regulators and trade associations to develop and distribute these tools. Compliance tools cover a wide variety of assistance vehicles. Assistance is provided in the forms of plain-language guides, comprehensive sector-based documents (e.g. Sector Notebooks on industry-specific manufacturing processes and pollution issues), environmental audit protocol manuals, fact sheets, checklists, newsletters, our web-based clearinghouse, and interactive, virtual, sector-based compliance assistance centers.

In FY 2005, EPA will tailor the Agency's role in direct delivery of compliance assistance to focus on targeted initiatives for particular sectors, or environmental problems of national significance. As part of a strategic compliance assistance program, the Agency will conduct the following activities to improve results: build a network of compliance assistance providers; distribute tools to providers that work more directly with the regulated community; provide training to address sector-specific and regulatory compliance issues; convene a compliance assistance forum to share best practices; engage in priority setting; provide leadership on

compliance assistance outcome measurement; develop guidance to encourage use of consistent compliance assistance measures and a new integrated compliance assurance database; develop new compliance assistance materials; coordinate a federal roundtable for compliance assistance programs; and maintain a clearinghouse of compliance assistance materials available from federal, state and local governments and trade associations. EPA will continue to work with stakeholders to identify compliance assistance needs and improve planning with states. EPA will compile Agency and state activities in the Compliance Assistance Activity Plan. Through public outreach press releases and newsletters, EPA will publicize its compliance assistance efforts and help the regulated community anticipate and prevent violations of federal environmental laws.

Compliance Assistance Centers are a key component of EPA's efforts to help small and medium-sized businesses and governments to understand, and comply with, federal environmental requirements. The centers provide one-stop shopping for regulatory and technical assistance, pollution prevention activities, and other information particularly suited to the individual sectors. Operated in partnership with industry associations, environmental groups, universities, and other governmental agencies, the Centers are accessible through Internet web sites as well as toll-free telephone assistance lines.

EPA has ten mature Compliance Assistance Centers, and three recently established centers for the auto salvage, construction, and US-Mexican Border sectors. In FY 2005, EPA will continue to develop three new centers. Possible new centers include plastics, fuels management, or marina/boat repair. The Agency will also continue to measure the centers' success in improving users' understanding of environmental requirements; changes in facility management practices; and pollution reduction behaviors.

The Agency will also continue to support, implement, and improve the Compliance Assistance Center Platform (Platform). The Platform is a suite of comprehensive web-based tools necessary to create new, full-featured centers; it is a base for launching new sector-specific, topical, and geographic Internet-based compliance assistance centers. The Platform ensures efficient integration of technology and content and reduces the financial barriers to creating new centers.

In FY 2005, the Agency will continue to improve and expand local and state-specific information (e.g., state regulatory requirements) in the new and existing Centers. EPA will also continue to integrate the centers and clearinghouse with the "Business Gateway" Initiative, formerly the "Business Compliance Assistance One-Stop" (One-Stop) Initiative, one of the President's 24 e-government initiatives. Visitors to the One-Stop website will be directed to applicable compliance information through a customized "user profiler."

EPA will measure changes in understanding, facility management practices, and levels of pollution reduction resulting from targeted compliance assistance. This ongoing measurement and analysis will improve the effectiveness of the Compliance Assistance Program. For example, EPA will use surveys to measure the outcomes of the use of compliance assistance centers and the clearinghouse, on-site assistance visits, workshops, training and the Environmental Assistance Summit (formerly the Compliance Assistance Providers Forum). EPA continues to refine data elements, to ensure a smooth transition from the Reporting Compliance Assistance Database (RCATS) to the Integrated Compliance Information System (ICIS). During FY 2005, compliance assistance data elements will be refined and reported into ICIS.

The Federal Facility Enforcement Program will continue to provide technical guidance to other federal agencies on compliance with executive orders, pollution prevention requirements, and applicable environmental laws. EPA will also continue working with other federal agencies to establish and support a new Federal Facilities Stewardship and Compliance Assistance Center in FY 2004. EPA will work in partnership with other federal agencies, to implement environmental management systems, and will conduct environmental management review at specific federal facilities.

Compliance Incentives

EPA will continue to implement EPA's Audit/Self-Policing Policy, Small Business Compliance Policy, and Small Local Governments Policy as core elements of the Enforcement and Compliance Assurance Program. EPA's Audit/Self-Policing Policy encourages corporate audits and subsequent correction of self-discovered violations, providing a uniform enforcement response toward disclosures of violations. Under the Audit Policy, when companies voluntarily discover and promptly correct environmental violations, EPA will waive or substantially reduce gravity-based civil penalties.

EPA is currently working on many efforts to encourage corporate self-disclosures, with a special emphasis on the telecommunications, petroleum, iron and steel industries. Through FY 2003, approximately 2,500 entities have disclosed violations at 7,848 facilities. The Agency will continue to expand use of the Audit Policy through aggressive outreach to particular industries. EPA actively encourages disclosures at multiple facilities owned by the same regulated entity, because such disclosures allow an entity to review their operations holistically, which more effectively benefits the environment.

The EPA Small Business Compliance Policy is intended to promote environmental compliance among small businesses by providing them with special incentives, such as penalty reductions to use compliance assistance and other voluntary means to identify, disclose, and correct violations. This policy meets EPA's obligations, under the Small Business Regulatory Enforcement Fairness Act, to provide a penalty reduction program for small entities. EPA has worked with stakeholders to modify the policy to encourage greater participation. As part of its FY 2005 outreach activities, EPA is working with small business compliance assistance providers to develop tools to assist small businesses in better understanding applicable environmental requirements and to take advantage of the flexibility the policy offers. EPA will provide incentives for states and communities to utilize the policy, with the option to establish an environmental management system to resolve violations.

In FY 2005, the Compliance Incentives Program continues to promote the use of environmental management systems (EMS), including ISO 14001. The EMS offer companies and other regulated entities an innovative approach to minimizing environmental impacts by integrating environmental concerns into business decisions and practices. EPA works with a variety of stakeholders to promote the use of EMS, and to explore ways in which regulators can encourage the use of the EMS to enhance environmental performance. Domestic and international partners include federal agencies, state and local governments, industry, non-governmental organizations, and the North American Commission for Environmental Cooperation. Executive Order 13148 requires Federal agencies to establish an EMS by 12/31/05.

EPA work in partnership with other Federal agencies to implement EMSs at these Federal facilities. In addition, EPA will conduct Environmental Management Reviews (EMR) at specific facilities.

The Agency also works to enhance market incentives for responsible environmental performance. Disclosure of environmental information promotes responsible behavior and ensures that markets value environmental performance. The United States securities regulatory system relies on registrants' full disclosure of information, including the registrant's environmental liabilities, to current and potential shareholders as a primary means of ensuring informed investments and the proper functioning of the market. EPA's Enforcement and Compliance Assurance Program notifies parties to EPA-initiated administrative enforcement actions of their potential duty to disclose the proceeding to the Securities and Exchange Commission (SEC). In FY 2005, EPA continues to promote the full and fair disclosure of environmental information to the public in accordance with the SEC's requirements, and facilitates the public's use of this information to positively influence environmental performance.

Compliance Monitoring

The Agency reviews and evaluates the activities of the regulated community to determine compliance with applicable laws, regulations, permit conditions, and settlement agreements, and to determine whether conditions presenting imminent and substantial endangerment to human health or the environment exist. The majority of work years devoted to the compliance monitoring program are provided to the Regions to conduct investigations, on-site compliance inspections and evaluations. Evaluations include monitoring, sampling, and emissions testing. The program staff also reviews performance reports submitted by sources.

Compliance monitoring activities are environmental media- and sector-based. The traditional media-based inspections and evaluations are conducted to supplement those performed by States and Tribes and to implement programs that are not delegated to States and Tribes. These compliance inspections and evaluations are key to meeting annual and long-term goals established for air, water, pesticides, toxic substances, and hazardous waste in the EPA Strategic Plan. Multi-media approaches such as cross-media inspections and evaluations, sector initiatives, and risk-based targeting, allow the Agency to take a more holistic approach to protecting ecosystems and to solving the more intractable environmental problems. EPA also monitors compliance by Federal facilities with environmental regulatory requirements and executive orders, as well as conducting single- and multi-media inspections and evaluations.

In FY 2005, EPA plans to conduct approximately 18,500 inspections, evaluations, and civil and criminal investigations. These activities will be targeted to areas that pose risks to human health or the environment, display patterns of noncompliance, or involve disproportionately-exposed populations. EPA is working with States and Tribes to identify where these inspections and evaluations will have the greatest impact on achieving environmental results.

In FY 2005, the Agency will begin measuring the percentage of regulated entities working towards compliance, as a result of our monitoring activities. This measure will demonstrate that EPA's compliance monitoring identifies potential violations and promotes facilities to take immediate action to address the violations early to achieve compliance. As reported in the FY 2002 Annual Performance Report, analysis of compliance inspections and

evaluations showed that (in the limited inspection programs studied) 50% resulted in the identification of potential environmental violations, and 10% showed that immediate action was taken to address environmental and human health risks.

Maintaining an effective inspection and evaluation program depends on a well-trained workforce. In order to maintain EPA's expertise in field monitoring and to ensure compliance with EPA Order 3500.1, the Agency supports development of inspector manuals, training modules, and delivery systems for training Regional, State, and Tribal inspectors and program managers. The EPA Order 3500.1 establishes consistent Agency-wide training and development standards for EPA employees leading environmental compliance inspections/field investigations to ensure that they have working knowledge of regulatory requirements, inspection and evaluation methodologies, and health and safety procedures. The Order consists of a three-level training program for EPA compliance inspectors/field investigators: Occupational Health and Safety Curriculum, Basic Inspector Curriculum, and Program-Specific Curriculum. EPA compliance inspectors/field investigators must complete the required training before leading a compliance inspection/field investigation.

Training materials developed may include sampling tools, use of EPA's information systems and other new technologies, and guidance for conducting inspections. This is especially critical as EPA moves to formal electronic signature processes (forms and reports that can be filled out electronically and certified as legal documents). The Order also serves as a potential model to states, tribes and local environmental agencies that may want to develop their own inspector training program. In addition, under EPA's Guidelines for Issuing Federal Credentials to States and Tribes, they will need to complete minimum training which will parallel the requirements for Federal EPA inspectors. To ensure that training is available, EPA will need to develop and make available training materials and course modules in the media programs.

In FY 2005, EPA will continue to review and respond to 100 percent of the notices for trans-boundary movement of hazardous waste, ensuring that these wastes are properly handled in accordance with international agreements and Resource Conservation and Recovery Act (RCRA) regulations. Through analysis of notices, manifests, tracking documents, and annual reports, EPA monitors compliance with relevant regulations and takes enforcement actions as necessary. While the vast majority of the hazardous waste trade occurs with Canada, the U.S. also has international trade agreements with Mexico, Malaysia, Costa Rica and member countries of the Organization for Economic Cooperation and Development (OECD). In calendar year 2003, EPA responded to 1,170 notices (representing 446 import notices and 724 export notices) regarding 8,247 distinct waste streams.

In FY 2005, the compliance monitoring program will focus on the national program priorities established through the Office of Enforcement and Compliance Assurance's FY 2004/2005 Memorandum of Agreement. New priorities will be developed for FY 2005, based on recommendations from the EPA's Planning Council, regions, states, and tribes responsible for operating compliance monitoring programs. These priorities may be geographic, sector-based, media-based or focused on specific regulatory programs

Civil Enforcement

The Agency's Civil Enforcement Program addresses violations of environmental laws, to ensure that violators come into compliance with these laws and regulations. The program achieves the Agency's environmental goals through consistent, fair and focused enforcement of all environmental statutes. The overarching goal of the civil enforcement program is to protect human health and the environment, targeting its actions according to degree of health and environmental risk. Further, it aims to level the economic playing field by ensuring that violators do not realize an economic benefit from noncompliance, and seeks to deter future violations.

To accomplish these goals, the Civil Enforcement Program is responsible for the development, litigation, and settlement of administrative and civil judicial cases against serious violators of priority environmental laws. The federal program will focus its resources on national program priorities, including environmental and human health problems, trans-boundary pollutants, and multi-state industrial violators. The Federal facilities enforcement program will continue to expeditiously pursue enforcement actions at Federal facilities where significant violations are discovered.

In FY 2005, program management will provide direction, set goals and priorities, and evaluate and review the national enforcement program. Enforcement and compliance staff will develop guidance and policy for technical evaluations, investigations, and case development strategies that may include the use of injunctive relief, supplemental environmental projects, and other civil penalties as appropriate. Further, enforcement staff will participate in the development or revision of regulations and interpretive guidance.

Criminal Enforcement

The criminal enforcement program brings to bear the Agency's most powerful enforcement tool against the most significant environmental violations. By demonstrating that the regulated community will be held accountable for serious, willful statutory violations in terms of jail sentences and criminal fines, the program acts to forcefully deter violations of environmental laws and regulations in a way that civil judicial and administrative enforcement might not achieve. EPA's special agents, located nationwide, will conduct criminal investigations, develop information to support grand jury inquiries and decisions, and work with other law enforcement agencies to present a highly visible and effective force in the Agency's enforcement strategy. Cases are referred to the Department of Justice for prosecution, with special agents serving as key witnesses in these judicial proceedings. The criminal enforcement program places particular emphasis on cooperation with state and local law enforcement through participation in task forces and enhancing capacity through specialized training and community policing efforts.

EPA's efforts to work more closely and cooperatively with industry are complemented by the criminal enforcement program. The Agency is sending a clear message to the regulated community that those who choose to cooperate in good faith will reap the benefits of that partnership. Those whose noncompliance is distinguished by culpable conduct can expect criminal investigation and prosecution. In FY 2005, EPA estimates that it will conduct 400 criminal investigations of traditional environmental crimes targeted to areas that pose risks to human health or the environment, display patterns of noncompliance, or include

disproportionately exposed populations. EPA will also continue to develop and deploy a secure network for proper handling of confidential law enforcement information used in the criminal program.

Homeland Security

The enforcement program provides investigative and training support to EPA's efforts, and activities with other Federal law enforcement partners in support of homeland security. The program maintains a National Counter Terrorism Evidence Response Team to coordinate with FBI Headquarters and field offices in response to Homeland Security incidents; and a Homeland Security/Counter Terrorism team, which responds directly to both the National Contingency Plan and the enforcement program's technical needs. These teams may also respond to requests from the U. S. Secret Service to provide on-site criminal investigative and technical support at designated National Special Security Events (i.e. national political conventions, international events, etc.) In FY 2005, the program will scale down its previous counter-terrorism efforts to focus on regular criminal enforcement issues.

Enforcement Training

The Agency's enforcement training program is mandated by the Pollution Prosecution Act to provide environmental enforcement training nationally through the National Enforcement Training Institute (NETI). The program oversees the design of core and specialized enforcement courses and their delivery to lawyers, inspectors, civil and criminal investigators, and technical experts. In FY 2005, the program will develop and deliver training to support national teams formed to address national enforcement priority areas, and continue to develop and enhance a training center on the Internet. "NETI Online" offers timely, targeted technical training courses to a nation-wide and international audience. The site also provides for tracking individual training plans as well as developing and managing the program's training delivery processes.

The Agency also provides specialized classroom training in criminal environmental law enforcement at the Department of Treasury's Federal Law Enforcement Training Center (FLETC) in Glynco, GA. FLETC develops and delivers basic and advanced training to EPA Special Agents and their state, local, and Tribal partners across the United States and in selected counties worldwide. FLETC provides one of the few opportunities for state, local, and Tribal enforcement professionals to obtain criminal investigation training. In FY 2005, the enforcement training program will enhance opportunities for experiential training with the continued development of a practical exercise site at its NETI-West facility in Denver, Colorado.

State and Tribal Assistance Grants

A strong state and Tribal enforcement and compliance assurance presence is essential to EPA's long-term strategic plan objective to identify and reduce significant noncompliance in high priority areas while maintaining a strong enforcement presence in all regulatory program areas. Most of the Nation's environmental laws envision a strong role for state governments in implementing and managing environmental programs. In FY 2005, the Enforcement and Compliance Assurance Program will continue to support state agencies implementing authorized, delegated, or approved environmental programs. Consistent with regulations and

Agency policy, EPA will provide an appropriate level of oversight and guidance to states to ensure that environmental regulations are fairly and consistently enforced across the Nation.

EPA works with Indian tribes on a government-to-government basis to identify enforcement, compliance assistance, and capacity building issues affecting Tribal lands. The Agency's goal is to help tribes develop their own enforcement and compliance assistance programs so that they can assume greater management of environmental programs in Indian Country. In FY 2005, the Enforcement and Compliance Assurance Program will continue implementation of the Tribal Strategy in order to direct compliance monitoring and compliance assistance capacity-building efforts. By monitoring and evaluating progress made, EPA will ensure that the plan's commitments are met in a timely fashion. These efforts will help implement EPA's 1984 Indian Policy in which EPA works with Tribal governments as full partners to enhance protection of public health and the environment on Tribal lands.

The state and Tribal grant programs are designed to build environmental partnerships with states and tribes to strengthen their ability to address environmental and public health threats. These threats include contaminated drinking water, pesticides in food, hazardous waste, toxic substances, and air pollution. In FY 2005, the Enforcement and Compliance Assurance Program will continue to award state and Tribal enforcement grants to assist in the implementation of the compliance and enforcement provisions of the Toxic Substances Control Act (TSCA) and the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). These grants support state and Tribal compliance and enforcement activities to protect the environment from harmful chemicals and pesticides. The enforcement component of RCRA state grants is also included in this objective.

Under the Pesticides Enforcement Grant Program, EPA provides resources to states and Indian tribes to conduct FIFRA compliance inspections and take appropriate enforcement actions, and implement programs for farm worker protection.

States receive toxic substances grant funding for compliance inspections of asbestos and PCBs and for implementation of the state lead abatement enforcement program. The funds will complement other Federal program grants for building state capacity for lead abatement, and enhancing compliance with disclosure, certification and training requirements.

EPA has maintained a multi-media grants program for states and tribes over the last several years to build or improve compliance capacity within the Agency's regulatory partners and to foster innovation. The Agency establishes annual funding priorities for the multi-media grants program, including improving compliance data quality; modernizing data systems; improving public access to enforcement and compliance data; improving outcome measurement; supporting state and Tribal inspector training and field testing innovative approaches to compliance monitoring. The grants and/or cooperative agreements are competed nationally and each funding priority is targeted at enhancing state and Tribal capacity and capability or needs identified by states, tribes or state and Tribal associations.

The Agency will also continue providing single media enforcement grants to states that are funded under other environmental goals supporting air and water programs as well as RCRA and multi-media funds to the Regions specifically for Tribal enforcement and compliance activities.

International Capacity Building

The strategic mission and objectives of the international enforcement program promote international and border environmental security through enforcement and compliance. The international program fosters cooperation with foreign countries of strategic interest to the United States, as prescribed in treaties and trade agreements, through capacity building activities. Data about trans-boundary movements of regulated substances and wastes are integrated, analyzed and used to promote international environmental enforcement. Achieving these strategic objectives and environmental benefits requires an EPA enforcement presence to effectively implement international commitments for cooperation in enforcement and compliance activities with other countries, especially those along the U.S. border. Through such arrangements, EPA works to reduce environmental risks to U.S. citizens from external sources of pollution, as well as to prevent or reduce the impact of pollution originating in the United States.

In FY 2005, EPA will continue cooperating with other nations to enforce compliance with international agreements affecting the environment to promote global environmental protection. These activities also serve to level the economic playing field in an increasingly global trading system.

FY 2005 CHANGE FROM FY 2004

EPM

- +\$5,400,000, 54.0 FTE: Increases FTE to maximize compliance and achieve environmental results through targeted inspections and enforcement. The increase will bring the Office of Enforcement and Compliance Assurance's FTE to actual FY 2003 and expected FY 2004 levels.
- -\$233,500, -0.9 FTE: Technical adjustment made transferring resources to the enabling support program area of IT/Data Management to supporting data quality efforts.
- -\$64,800, -0.5 FTE: Resources are being moved to support management of the environmental justice small grants program supporting Goal 4.
- There are increases for payroll, cost of living and enrichment for existing FTE.

Superfund

- +383,100, +3.0 FTE: Technical adjustment from Forensics support under Goal 5, Objective 4. The adjustment reflects work being performed at the National Enforcement Investigations Center that supports the homeland security efforts.
- +\$433,700: Technical adjustment made from forensics support under goal 5, objective 4 to support the OECA's programs under goal 5, objective 1.

ANNUAL PERFORMANCE GOALS AND MEASURES

Non-Compliance Reduction

In 2005 Through monitoring and enforcement actions, EPA will increase complying actions, pollutant reduction or treatment, and improve EMP.

In 2004 EPA will direct enforcement actions to maximize compliance and address environmental and human health problems.

In 2003 EPA will directed enforcement actions to maximize compliance and address environmental and human health problems.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Millions of pounds of pollutants required to be reduced through enforcement actions settled this fiscal year.(core optional)	600	350		M pounds
Number of EPA inspections conducted (core required)	18,880	15,500		inspections
Pounds of pollution estimated to be reduced, treated, and eliminated as a result of concluded enforcement actions.			300	million pounds
Percentage of concluded enforcement cases (including SEPs) requiring that pollutants be reduced, treated, or eliminated and protection of populations or ecosystems.			30	Percentage
Percentage of concluded enforcement cases (including SEPs) requiring implementation of improved env. management practices.			60	percentage
Number of inspections, civil investigations and criminal investigations conducted.			18,500	insp&inv.
Dollars invested in improved env. performance or improved EMP as a result of concluded enforcement actions (i.e., injunctive relief and SEPs)			4 billion	Dollars
Percentage of regulated entities taking complying actions, as a result of compliance monitoring.			10	percentage
Percent of concluded enforcement actions that require an action that results in environmental benefits and/or changes in facility management or information practices.	63	75		Percent
Number of Criminal Investigations	471	400		Investigations
Number of Civil Investigations	344	225		Investigations

Baseline: Protecting the public and the environment from risks posed by violations of environmental requirements is basic to EPA's mission. To develop a more complete picture of the results of the enforcement and compliance program, EPA has initiated a number of performance measures designed to capture the results of reducing the amount of time for significant noncompliers to return to compliance, reducing noncompliance recidivism rates, and improvements in facility process and/or management practices through behavioral changes. The baseline rates for many of these measures were established in FY00. These measures will complement the traditional enforcement measures of inspections and enforcement actions to provide a more complete picture of environmental results from the enforcement and compliance program.

Compliance Incentives

In 2005 Through self-disclosure policies, EPA will increase the percentage of facilities reducing pollutants or improving EMP.

In 2004 Increase opportunities through new targeted sector initiatives for industries to voluntarily self-disclose and correct violations on a corporate-wide basis.

In 2003 Increased opportunities through new targeted sector initiatives for industries to voluntarily self-disclose and correct violations on a corporate-wide basis.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Percentage of audits or other actions that result in the reduction, treatment, or elimination of pollutants; and the protection of populations or ecosystems.			5	percentage
Percentage of audits or other actions that result in improvements in env. management practices.			10	Percentage

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Pounds of pollutants reduced, treated, or eliminated, as a result of audit agreements or other actions.			.25 million	Pounds
Dollars invested in improving environmental management practices as a result of audit agreements or other actions.			2 million	dollars
Facilities voluntarily self-disclose and correct violations with reduced or no penalty as a result of EPA self-disclosure policies.	848	500		Facilities

Baseline: EPA developed its Audit/Self-Policing Policy in 1995 to encourage corporate audits and subsequent correction of self-discovered violations. That Policy as well as the Small Business Compliance Policy were modified in FY00. The Agency is working to expand the use of the Audit Policy through aggressive outreach to specific sectors. In FY01 the performance measure was modified to reach settlements with 500 facilities to voluntarily self-disclose and correct violations. This same measure has been carried continued.

Regulated Communities

- In 2005 Through compliance assistance, EPA will increase the understanding of regulated entities, improve Environmental Management Practices, and reduce pollutants.
- In 2004 Increase the regulated community's compliance with environmental requirements through their expanded use of compliance assistance. The Agency will continue to support small business compliance assistance centers and develop compliance assistance tools such as sector notebooks and compliance guides.
- In 2003 Increased the regulated community's compliance with environmental requirements through their expanded use of compliance assistance. The Agency continued to support small business compliance assistance centers and developed compliance assistance tools such as sector notebooks and compliance guides.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Number of facilities, states, technical assistance providers or other entities reached through targeted compliance assistance (core optional)	721,000	500,000		Entities
Percentage of regulated entities seeking assistance from EPA-sponsored CA centers and clearinghouse reporting that they improved EMP as a result of their use of the centers or the clearinghouse.			60	percentage
Percentage of regulated entities receiving direct compliance assistance from EPA (e.g., training, on-site visits) reporting that they improved EMP as a result of EPA assistance.			50	Percentage
% of regulated entities seeking assistance from EPA-sponsored CA centers and clearinghouse reporting that they reduced, treated, or eliminated pollution as a result of that resource.			25	Percentage
% of regulated entities seeking assistance from EPA-sponsored CA centers and clearinghouse reporting that they increased their understanding of env. rqmts. as a result of their use of the resources.			75	Percentage
% of regulated entities receiving direct CA from EPA (e.g., training, on-site visits) reporting that they increased their understanding of env. rqmts. as a result of EPA assistance.			65	percentage
% of regulated entities receiving direct assistance from EPA (e.g., training, on-site visits) reporting that they reduced, treated, or eliminated pollution, as a result of EPA assistance.			25	percentage

Baseline: EPA provides clear and consistent descriptions of regulatory requirements to assure that the community can understand its obligations. EPA supports initiatives targeted toward compliance in specific industrial and commercial sectors or with certain regulatory requirements. Compliance assistance tools range from plain-language guides, fact sheets, checklists and newsletters. New distribution methods include the on-line Clearinghouse. In FY03, EPA is planning to reach 475,000 facilities, states, or technical assistance providers through targeted compliance assistance efforts.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 PERFORMANCE MEASURE:

Percentage of concluded enforcement cases (including SEPs) requiring that pollutants be reduced, treated, or eliminated and protection of populations or ecosystems.

Pounds of pollution estimated to be reduced, treated, or eliminated as a result of concluded enforcement actions.

Percentage of concluded enforcement cases (including SEPs) requiring implementation of improved environmental management practices.

Dollars invested in improved environmental performance or improved environmental management practices as a result of concluded enforcement actions (i.e., injunctive relief and SEPs).

Percentage of audits or other actions that result in the reduction, treatment, or elimination of pollutants and protection of populations or ecosystems.

Percentage of audits or other actions that result in improvements in environmental management practices.

Pounds of pollutants reduced, treated, or eliminated as a result of audit agreements or other actions.

Dollars invested in improved environmental management practices as a result of audit agreements or other actions.

Performance Database: The Integrated Compliance Information System, (ICIS), which tracks EPA civil enforcement (e.g., judicial and administrative) actions.

Data Source: Most of the essential data on environmental results in ICIS are collected through the use of the Case Conclusion Data Sheet (CCDS), which Agency staff begins preparing after the conclusion of each civil (judicial and administrative) enforcement action. EPA implemented the CCDS in 1996 to capture relevant information on the results and environmental benefits of concluded enforcement cases. The information generated through the CCDS is used to track progress for several of the performance measures. The CCDS form consists of 27 specific questions which, when completed, describe specifics of the case; the facility involved; information on how the case was concluded; the compliance actions required to be taken by the defendant(s); the costs involved; information on any Supplemental Environmental Project to be undertaken as part of the settlement; the amounts and types of any penalties assessed; and any costs recovered through the action, if applicable. The CCDS documents whether the facility/defendant, through injunctive relief, must: (1) reduce pollutants; and (2) improve management practices to curtail, eliminate or better monitor and handle pollutants in the future. The Criminal Enforcement Program also maintains a separate case conclusion data form and system for compiling and analyzing the results of criminal enforcement prosecution.

Methods, Assumptions and Suitability: For enforcement actions which result in pollution reductions, the staff estimate the amounts of pollution reduced for an immediately implemented improvement, or an average year once a long-term solution is in place. There are established procedures for the staff to calculate, by statute, (e.g., Clean Water Act), the pollutant reductions or eliminations. The procedure first entails the determination of the difference between the current "out of compliance" concentration of the pollutant(s) and the post enforcement action "in compliance" concentration. This difference is then converted to mass per time using the flow or quantity information derived during the case.

QA/QC Procedures: Quality Assurance/Quality Control procedures [See references] are in place for both the CCDS and ICIS entry. There are a Case Conclusion Data Sheet Training Booklet [See references] and a Case Conclusion Data Sheet Quick Guide [See references], both of which have been distributed throughout Regional and Headquarters' (HQ) offices. Separate CCDS Calculation and Completion Checklists [See references] are required to be filled out at the time the CCDS is completed.

Quality Management Plans (QMPs) are prepared for each Office within The Office of Enforcement and Compliance Assurance (OECA). The Office of Compliance (OC) has established extensive processes for ensuring timely input, review and certification of ICIS information in FY'03. OC's QMP, effective for 5 years, was approved July 29, 2003. OECA instituted a requirement for semiannual executive certification of the overall accuracy of information to satisfy the GPRA, the Agency's information quality guidelines, and other significant enforcement and compliance policies on performance measurement.

Data Quality Review: Information contained in the CCDS and ICIS are required by policy to be reviewed by regional and headquarters' staff for completeness and accuracy.

Data Limitations: The pollutant reductions or eliminations reported on the CCDS are estimates of what will be achieved if the defendant carries out the requirements of the settlement. Information on expected outcomes of state enforcement is not available. The estimates are based on information available at the time a case is settled or an order is issued. In some instances, this information will be developed and entered after the settlement, during continued discussions over specific plans for compliance. Because of the time it takes to agree on the compliance actions, there may be delay in completing the CCDS. Additionally, because of unknowns at the time of settlement, different levels of technical proficiency, or the nature of a case, OECA's expectation is that based on information on the CCDS, the overall amounts of pollutant reductions/eliminations will be prudently underestimated.

Error Estimate: Not available

New & Improved Data or Systems: In November 2000, EPA completed a comprehensive guidance package on the preparation of the Case Conclusion Data Sheet. This guidance, issued to headquarters' and regional managers and staff, was made available in print and CD-ROM, and was supplemented in FY 2002 [See references]. The guidance contains work examples to ensure better calculation of the amounts of pollutants reduced or eliminated through concluded enforcement actions. EPA trained each of its ten regional offices during FY 2002. OC's Quality Management Plan was approved by OEI July 29, 2003, and is effective for five years. [See references]

References: Quality Assurance and Quality Control procedures: Data Quality: Life Cycle Management Guidance, (IRM Policy Manual 2100, dated September 28, 1994, reference Chapter 17 for Life Cycle Management). Case Conclusion Data Sheets: Case Conclusion Data Sheet, Training Booklet, issued November 2000 available: www.epa.gov/compliance/resources/publications/planning/caseconc.pdf; Quick Guide for Case Conclusion Data Sheet, issued November 2000. Information Quality Strategy and OC's Quality Management Plans: Final Enforcement and Compliance Data Quality Strategy, and Description of FY 2002 Data Quality Strategy Implementation Plan Projects, signed March 25, 2002. ICIS: U.S. EPA, Office of Enforcement and Compliance Assurance, ICIS Phase I, implemented June 2002. Internal EPA database; non-enforcement sensitive data available to the public through the Freedom of Information Act (FOIA).

FY 2005 Performance Measure: Number of inspections, civil investigations, and criminal investigations conducted

Performance Databases: Output measure. Integrated Data for Enforcement Analysis (IDEA) integrates data from major enforcement and compliance systems, such as the Permit Compliance System (PCS), Air Facilities Subsystem (AFS), Resource Conservation and Recovery Act Information System (RCRAInfo), and Emergency Response Notification system (ERNS). The Criminal Docket System (CRIMDOC) is a criminal case management, tracking and reporting system. Information about criminal cases investigated by the U.S. EPA-Criminal Investigation Division (CID) is entered into CRIMDOC at case initiation, and investigation and prosecution information is tracked until case conclusion.

Data Source: EPA's regional and Headquarters' offices. U.S. EPA-CID offices.

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: All the systems have been developed in accordance with the Office of Information Management's Lifecycle Management Guidance, which includes data validation processes, internal screen audit checks and verification, system and user documents, data quality audit reports, third-party testing reports, and detailed report specifications for showing how data are calculated. For CRIMDOC, the system administrator performs regularly scheduled quality assurance/quality control checks of the CRIMDOC database to validate data and to evaluate and recommend enhancements to the system.

Data Quality Review: EPA is now using updated monitoring strategies [See references] which clarify reporting definitions and enhances oversight of state and local compliance monitoring programs. In FY2003, OECA instituted a requirement for semiannual executive certification of the overall accuracy of information to satisfy the GPRA, the Agency's information quality guidelines, and other significant enforcement and compliance policies on performance measurement.

Data Limitations: For all systems, there are concerns about quality and completeness of data and the ability of existing systems to meet data needs. Incompatible database structures/designs and differences in data definitions impede integrated analyses. Additionally, there are incomplete data available on the universe of regulated facilities because not all are inspected/permitted. In

addition, the targets for numbers of inspections, and civil and criminal investigations are based on the resources redirected to the state and Tribal enforcement grant program.

Error Estimate: N/A

New & Improved Data or Systems: PCS modernization is underway and the first version is scheduled to be released in December 2005. An Interim Data Exchange Format (IDEF) has been established and will support the transfer of data from modernized state systems into the current PCS data system while PCS is being modernized. EPA is addressing the quality of the data in the major systems and each Office within OECA has developed a Quality Management Plan (data quality objectives, quality assurance project plans, baseline assessments). A new Integrated Compliance Information System (ICIS) supports core program needs and consolidates and streamlines existing systems. Additionally, OECA began implementing its Data Quality Strategy in FY 2002. A new case management, tracking and reporting system (Case Reporting System) is currently being developed that will replace CRIMDOC. This new system will be a more user-friendly database with greater tracking, management and reporting capabilities.

References: Clean Air Act Compliance Monitoring Strategy, April 25, 2001, www.epa.gov/compliance/resources/policies/monitoring/cmsspolicy.pdf

AFS: <http://www.epa.gov/compliance/planning/data/air/afssystem.html>.

PCS: <http://www.epa.gov/compliance/planning/data/water/pcssys.html>.

RCRA info: <http://www.epa.gov/epaoswer/hazwaste/data/index.htm>.

For CRIMDOC: CRIM-DOC U.S. EPA, Office of Enforcement and Compliance Assurance. Internal enforcement confidential database; non-enforcement sensitive data available to the public through the Freedom of Information Act (FOIA).

Information Quality Strategy and OC's Quality Management Plans: Final Enforcement and Compliance Data Quality Strategy, and Description of FY 2002 Data Quality Strategy Implementation Plan Projects, signed March 25, 2002

FY 2005 Performance Measure: Percentage of regulated entities taking complying actions as a result of compliance inspections and evaluations.

Performance Databases: ICIS and manual reporting by regions

Data Sources: EPA regional offices and Office of Regulatory Enforcement (specifically, the Clean Air Act (CAA)- Mobile Source program).

Methods, Assumptions and Suitability: A new measurement tool, the Inspection Conclusion Data Sheet, (ICDS) will be used to analyze results from inspections conducted under some of EPA's major statutes. EPA will analyze data on communication of problems to industry, compliance assistance delivered by inspectors, and immediate corrections made by industry according to region, nationally and by industry sector. The inspectors fill out the Inspection Conclusion Data Sheet (ICDS) for each inspection and that information is reported to ICIS by the Regions.

QA/QC Procedures: ICIS has been developed per Office of Information Management Lifecycle Management Guidance, which includes data validation processes, internal screen audit

checks and verification, system and user documents, data quality audit reports, third party testing reports, and detailed report specifications for showing how data are calculated.

Data Quality Review: Regional manual reports are reviewed and checked against the inspection data entered into other Agency databases (Air Facilities Subsystem (AFS), Permit Compliance System (PCS), Online Tracking Information System (OTIS), Integrated Data for Enforcement Analysis (IDEA)). Information contained in the CCDS and ICIS are required by policy to be reviewed by regional and headquarters' staff for completeness and accuracy. In FY2003, OECA instituted a requirement for semiannual executive certification of the overall accuracy of information to satisfy the GPRA, the Agency's information quality guidelines, and other significant enforcement and compliance policies on performance measurement.

Data Limitations: ICIS is not currently the primary database for inspections and as a result the regions have to enter inspection data into both ICIS and other Agency databases. This can result in redundant, incomplete, or contradictory data.

Error Estimate: N/A

New & Improved Data or Systems: The new Integrated Compliance Information System (ICIS) will support core program needs and consolidate and streamline existing systems. As ICIS becomes more widely used by the regions and HQ programs some of the problems with data entry and reporting should be resolved. As various older systems become modernized (e.g., PCS), they will incorporate the ICDS data set as part of the system. This should minimize data entry and reporting problems.

References: ICIS: U.S. EPA, Office of Enforcement and Compliance Assurance, ICIS Phase I, implemented June 2002. Internal EPA database; non-enforcement sensitive data available to the public through the Freedom of Information Act (FOIA).

FY 2005 Performance Measure:

Percentage of regulated survey respondents seeking assistance from EPA-sponsored compliance assistance centers and clearinghouse reporting that they improved environmental management practices as a result of their use of the centers or the clearinghouse.

Percentage of regulated survey respondents seeking assistance from EPA-sponsored compliance assistance centers and clearinghouse reporting that they reduced, treated, or eliminated pollution as a result of their use of the centers or the clearinghouse.

Percentage of regulated survey respondents seeking assistance from EPA-sponsored compliance assistance centers and clearinghouse reporting that they increased their understanding of environmental requirements as a result of their use of the centers or the clearinghouse.

Performance Database: In FY2005, EPA Headquarters will manage data on the performance of the Centers and Clearinghouse respondents using ICIS (Integrated Compliance Information

System) and will no longer operate and maintain the Reporting Compliance Assistance Tracking System (RCATS).

Data source: Headquarters and EPA's Regional offices will enter information in ICIS upon completion and delivery of media and sector-specific compliance assistance including workshops, training, on-site visits and distribution of compliance assistance tools. ICIS is designed to capture outcome measurement information such as increased awareness/understanding of environmental laws, changes in behavior and environmental improvements as a result of the compliance assistance provided.

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: Automated data checks and data entry guidelines are in place for ICIS.

Data Quality Reviews: Information contained in the ICIS is reviewed by Regional and Headquarters staff for completeness and accuracy. In FY2003, OECA instituted a requirement for semiannual executive certification of the overall accuracy of information to satisfy the GPRA, the Agency's information quality guidelines, and other significant enforcement and compliance policies on performance measurement.

Data Limitations: None

Error Estimate: None

New/Improved Data or Systems: EPA plans to incorporate RCATS into ICIS in FY2004.

References: Reporting Compliance Assistance Data in the Integrated Compliance Information System (ICIS), January 9, 2004. RCATS: U.S. EPA Office of Enforcement and Compliance Assurance. Internal EPA database. Guidance: RCATs User Guide of March 19, 2001.

FY 2005 Performance Measure:

Percentage of regulated entities receiving direct compliance assistance from EPA (e.g., training, on-site visits) reporting that they improved environmental management practices as a result of EPA assistance.

Percentage of regulated entities receiving direct compliance assistance from EPA (e.g., training, on-site visits) reporting that they increased their understanding of environmental requirements as a result of EPA assistance.

Percentage of regulated entities receiving direct assistance from EPA (e.g., training, on-site visits) reporting that they reduced, treated, or eliminated pollution, as a result of EPA assistance.

Performance Database: EPA Headquarters will manage data on the performance of the Centers and clearinghouse respondents using ICIS (Integrated Compliance Information System) in FY05 and will no longer operate and maintain the Reporting Compliance Assistance Tracking System (RCATS).

Data source: Headquarters and EPA's Regional offices will enter information in ICIS upon completion and delivery of media and sector-specific compliance assistance including workshops, training, on-site visits and distribution of compliance assistance tools. ICIS is designed to capture outcome measurement information such as increased awareness/understanding of environmental laws, changes in behavior and environmental improvements as a result of the compliance assistance provided.

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Data Limitations: None

Error Estimate: None

New & Improved Data or Systems: EPA plans to incorporate RCATS into ICIS in FY2004.

References: Reporting Compliance Assistance Data in the Integrated Compliance Information System (ICIS), January 9, 2004. RCATS: U.S. EPA Office of Enforcement and Compliance Assurance. Internal EPA database. Guidance: RCATs User Guide of March 19, 2001.

EFFICIENCY MEASURES/MEASUREMENT DEVELOPMENT PLANS

OECA is currently developing an outcome measure to capture the impact of the criminal enforcement program's *specific* deterrence, which EPA considers to be a "level two" or "level three" outcome on its hierarchy. *Specific* deterrence is based on the assumption that once prosecuted and punished, a defendant will not deliberately break the law again. OECA's measure of specific deterrence will be based on *recidivism*, i.e., the degree to which a former defendant in an EPA criminal enforcement prosecution has been indicted subsequently for another environmental crime. OECA's Office of Criminal Enforcement, Forensics and Training is currently developing this measure. It plans to track the measure and develop a baseline in FY 2005, and expects to propose it as a formal GPRA measure in FY 2006

For FY 2005, the civil and criminal enforcement programs will use pounds of pollutants reduced per FTE for both program's efficiency measures. Since achievement of the civil and criminal enforcement program's annual and long-term goals are highly dependent on the enforcement cases concluded in a given year, there can be significant variability in a measure from one year to the next. To partially address this variability, this efficiency measure is based on three-year rolling averages.

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COORDINATION WITH OTHER AGENCIES

The Enforcement and Compliance Assurance Program coordinates closely with the Department of Justice (DOJ) on all enforcement matters. In addition, the program coordinates with other agencies on specific environmental issues as described herein.

The Office of Enforcement and Compliance Assurance coordinates with the Chemical Safety and Accident Investigation Board, the Occupational Safety and Health Administration, and Agency for Toxic Substances and Disease Registry in preventing and responding to accidental releases and endangerment situations, with the Bureau of Indian Affairs on Tribal issues relative to compliance with environmental laws on Tribal Lands, and with the Small Business Administration on the implementation of the Small Business Regulatory Enforcement Fairness Act (SBREFA). In addition, it coordinates with the Small Business Administration and a number of other federal agencies in implementing the Business Compliance One-Stop Project, an "E-Government" project that is part of the President's Regulatory Management Agenda. The Office of Enforcement and Compliance Assurance also works with a variety of federal agencies including the Department of Labor and the Internal Revenue Service to organize a Federal Compliance Assistance Roundtable to address cross cutting compliance assistance issues. Coordination also occurs with the U.S. Army Corps of Engineers on wetlands.

Due to changes in the Food Security Act, the U.S. Department of Agriculture/Natural Resources Conservation Service (USDA/NRCS) has a major role in determining whether areas on agricultural lands meet the definition of wetlands and are therefore regulated under the Clean Water Act. Civil Enforcement coordinates with USDA/NRCS on these issues also. Finally, the program coordinates closely with the Department of Agriculture on the implementation of the Unified National Strategy for Animal Feedlot Operations. EPA's Enforcement and Compliance Assurance program also coordinates with USDA on food safety issues arising from the misuse of pesticides, and shares joint jurisdiction with Federal Trade Commission (FTC) on pesticide labeling and advertising. Coordination also occurs with Customs on pesticide imports. EPA and the Food and Drug Administration (FDA) share jurisdiction over general-purpose disinfectants used on non-critical surfaces and some dental and medical equipment surfaces (e.g., wheelchairs). Finally, the Agency has entered into a Memorandum of Understanding with the Department of Housing and Urban Development concerning lead poisoning.

The Criminal Enforcement program coordinates with other federal law enforcement agencies (i.e. FBI, Customs, Treasury, U.S. Coast Guard, DOJ) and with state and local law enforcement organizations in the investigation and prosecution of environmental crimes. EPA also actively works with DOJ to establish task forces that bring together federal, state and local law enforcement organizations to address environmental crimes. In addition, the National Enforcement Training Institute has an Interagency Agreement with the Department of Treasury to provide specialized criminal environmental training to federal, state, local, and Tribal law

enforcement personnel at the Federal Law Enforcement Training Center (FLETC) in Glynco, GA. NETI also coordinates with four state associations who provide training for state and local officials.

Under Executive Order 12088, EPA is directed to provide technical assistance to other Federal agencies to help ensure their compliance with all environmental laws. The Federal Facility Enforcement Program coordinates with other Federal agencies, states, local, and Tribal governments to ensure compliance by federal agencies with all environmental laws.

The Office of Enforcement and Compliance Assurance works closely with the states and tribes. States perform the vast majority of inspections, direct compliance assistance, and enforcement actions. Most EPA statutes envision a partnership between EPA and the states under which EPA develops national standards and policies and the states implement the program under authority delegated by EPA. If a state does not seek approval of a program, EPA must implement that program in the state. Historically, the level of state approvals has increased as programs mature and state capacity expands, with many of the key environmental programs approaching approval in nearly all states. EPA will increase its effort to coordinate with states on training, compliance assistance, capacity building and enforcement. EPA will continue to enhance the network of state and Tribal compliance assistance providers.

EPA works directly with Canada and Mexico bilaterally and in the trilateral Commission for Environmental Cooperation (CEC). EPA's border activities require close coordination with the U.S. Customs Service, the Fish and Wildlife Service, the Department of Justice, and the States of Arizona, California, New Mexico, and Texas.

STATUTORY AUTHORITIES

Resource Conservation and Recovery Act sections 3007, 3008, 3013, and 7003 (42 U.S.C. 6927, 6928, 6934, 6973)

Comprehensive Environmental Response, Compensation, and Liability Act sections 106, 107, 109, and 122 (42 U.S.C. 9606, 9607, 9609, 9622)

Clean Water Act (CWA) sections 308, 309, and 311 (33 U.S.C. 1318, 1319, 1321)

Safe Drinking Water Act sections 1413, 1414, 1417, 1422, 1423, 1425, 1431, 1432, 1445 (42 U.S.C. 300g-2, 300g-3, 300g-6, 300h-1, 300h-2, 300h-4, 300i, 300i-1, 300j-4)

Clean Air Act sections 113, 114, and 303 (42 U.S.C. 7413, 7414, 7603)

Toxic Substances Control Act (TSCA) sections 11, 16, and 17 and TSCA Titles II and IV (15 U.S.C. 2610, 2615, 2616, 2641-2656, 2681-2692)

Emergency Planning and Community Right-to-Know Act sections 325 and 326 (42 U.S.C. 11045, 11046)

Residential Lead-Based Paint Hazard Reduction Act of 1992, section 1018 under TSCA section 11 (42 U.S.C. 4852d, 2610)

Federal Insecticide, Fungicide, and Rodenticide Act sections 8, 9, 12, 13, and 14 (7 U.S.C. 136f, 136g, 136j, 136k, 136l)

Ocean Dumping Act sections 101, 104B, 105, and 107 (33 U.S.C. 1411, 1414B, 1415, 1417)

North American Agreement on Environmental Cooperation

1983 La Paz Agreement on US/Mexico Border Region

National Environmental Policy Act (NEPA) section 102(f)

Pollution Prosecution Act of 1990 (42 U.S.C. section 4321 note)

Environmental Information Authorities

Clean Air Act (CAA) (42 U.S.C. 7601-7671q)

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

Clinger-Cohen Act

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. 9601-9675)

Computer Security Act

Congressional Review Act

Congressional Review Act

CPRKA of 1986

Emergency Planning and Community Right-to-Know Act (EPCRA) section 313 (42 U.S.C. 110001-11050)

Emergency Planning and Community Right-to-Know Act (EPCRA) section 313 (42 U.S.C. 110001-11050)

Enterprise for the Americas Initiative Act (7 U.S.C. 5404)

Environmental Research, Development, and Demonstration Act (ERDDA) of 1981

Executive Order 12866

Executive Order 12915 - Federal Implementation of the North American Agreement on Environmental Cooperation

Executive Order 12916 - Implementation of the Border Environment Cooperation Commission and the North American Development Bank

Executive Order 13148, "Greening the Government through Leadership in Environmental Management"

Federal Advisory Committee Act (FACA) (5 U.S.C. App.)

Federal Food, Drug and Cosmetic Act (FFDCA)

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) (7 U.S. C. 136-136y)

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) (7 U.S. C. 136-136y)

Federal Managers Financial Integrity Act (FMFIA)

Food Quality Protection Act (FQPA)

Freedom of Information Act (FOIA) (5 U.S.C. 552)

Government Paperwork Elimination Act (GPEA)

Government Performance and Results Act (GPRA)

National Environmental Education Act

North American Agreement on Environmental Cooperation

Paperwork Reduction Act Amendment of 1995 (44 U.S.C. 3501-3520)

Plain Language Executive Order

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

Privacy Act

Regulatory Flexibility Act

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

Safe Drinking Water Act section 1445 (SDWA) (42 U.S.C. 300f-300j-26)

Small Business Regulatory Enforcement Fairness Act

Toxic Substance Control Act section 14 (TSCA) (15 U.S.C. 2601-2692)

Unfunded Mandates Reform Act

Environmental Protection Agency

FY 2005 Annual Performance Plan and Congressional Justification

Compliance and Environmental Stewardship

OBJECTIVE: Improve Environmental Performance through Pollution Prevention and Innovation

By 2008, improve environmental protection and enhance natural resource conservation on the part of government, business, and the public through the adoption of pollution prevention and sustainable practices that include the design of products and manufacturing processes that generate less pollution, the reduction of regulatory barriers, and the adoption of results-based, innovative, and multimedia approaches.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Improve Environmental Performance through Pollution Prevention and Innovation	\$123,311.5	\$137,968.5	\$169,802.0	\$31,833.5
Environmental Program & Management	\$97,351.3	\$104,608.4	\$113,104.3	\$8,495.9
Building and Facilities	\$1,557.8	\$1,635.3	\$1,769.6	\$134.3
State and Tribal Assistance Grants	\$23,874.4	\$31,000.0	\$54,000.0	\$23,000.0
Inspector General	\$528.0	\$724.8	\$928.1	\$203.3
Total Workyears	544.2	556.1	562.6	6.5

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Categorical Grant: State and Tribal Performance Fund	\$0.0	\$0.0	\$23,000.0	\$23,000.0
Small Business Ombudsman	\$3,048.6	\$3,764.9	\$3,838.7	\$73.8
Categorical Grant: Environmental Information	\$18,514.0	\$25,000.0	\$25,000.0	\$0.0
Categorical Grant: Pollution Prevention	\$5,360.4	\$6,000.0	\$6,000.0	\$0.0
NEPA Implementation	\$11,204.2	\$12,315.4	\$12,654.2	\$338.8
Pollution Prevention Program	\$15,450.3	\$17,098.7	\$22,496.2	\$5,397.5
Regulatory/Economic-Management and Analysis	\$21,261.8	\$18,468.6	\$18,551.8	\$83.2
Environmental Education	\$5,281.0	\$0.0	\$0.0	\$0.0
Congressionally Mandated Projects	\$1,950.5	\$0.0	\$0.0	\$0.0
RCRA: Waste Minimization & Recycling	\$3,325.9	\$4,134.2	\$4,193.8	\$59.6
Regulatory Innovation	\$7,357.9	\$19,390.5	\$19,349.5	(\$41.0)
Administrative Projects	\$30,556.9	\$31,796.2	\$34,717.8	\$2,921.6
TOTAL	\$123,311.5	\$137,968.5	\$169,802.0	\$31,833.5

FY 2005 REQUEST

Results to be Achieved under this Objective

EPA uses multiple approaches to prevent pollution at its source. To achieve the full measure of opportunities available, EPA has focused on several key means of delivering program benefits. For example, EPA supports development of tools and information to assist producers and consumers in evaluating the cost and environmental/energy savings available through pollution prevention measures, as well as the identification and promotion of partnerships by which new approaches can be identified and tested. From these projects, lessons can be applied to new opportunity areas. Grants through the States build further capacity and demonstrate the broad-based viability of prevention and conservation-based approaches to environmental management.

Attainment of this objective will capture significant human health and environmental benefits by reducing the amount of pollution generated and released into the environment. The objective covers a variety of programs and initiatives that have as a common purpose the prevention of pollution and the implementation of sustainable practices. For example, EPA is carrying out a program that is designed to promote federal government acquisition of “greener,” less polluting products. These efforts, taken together, directly support the strategic targets that EPA has adopted for this objective, which express the Agency’s pollution prevention commitments in quantitative, measurable terms. The efforts will also help to conserve public and private resources to the extent that pollution prevention makes environmental goals attainable at lower cost.

In FY 2005, the Agency will continue to carry out its responsibilities under the National Environmental Policy Act (NEPA), which requires that Federal agencies consider the environmental consequences of their activities. EPA prepares NEPA environmental reviews for its proposed actions, and under §309 of the Clean Air Act and NEPA, EPA reviews major actions taken by other federal agencies to ensure that adverse environmental effects are identified and either eliminated or mitigated.

Through the Environmental Information Exchange Network (<http://www.exchange.network.net>), EPA will continue to provide funding to states, tribes, and territories to encourage and promote their data integration efforts and participation in the Network. These grants will allow states and tribes to create “next generation” environmental data systems that integrate air, water, and waste data and provide the regulated community with efficient and reliable electronic means for reporting compliance information consistent with the President’s Management Agenda and the goals of e-Government.

In FY 2005, EPA will continue to promote innovative environmental approaches for businesses, states, tribes and communities to help them achieve improved environmental performance. Incentives for beyond-compliance performance developed and implemented in the Agency’s Performance Track program will continue to reward businesses that demonstrate environmental responsibility and stewardship that translate into specific reductions in air emissions, water use, and the amount of waste generated. The Agency’s established programs with major industrial sectors and small businesses will continue to achieve widespread

improvements in environmental performance through collaborative planning, targeted assistance, and innovative regulatory reform.

Similarly, through innovative environmental pilot projects, EPA will continue to test, evaluate, and invest in new ways of achieving improved environmental performance. EPA will continue to work with states to test new approaches in permitting, including alternatives to permitting. Testing innovations will verify their ability to achieve higher levels of environmental performance. Evaluating innovations will quantify their results. Building the capacity to conduct program evaluations of innovations will help sharpen the effectiveness of innovation activities and stimulate the transfer and replication of successful results-based approaches.

Pollution Prevention Program

Environmentally Preferable Purchasing Program: Through the Environmentally Preferable Purchasing Program (EPP), EPA helps other federal agencies identify and acquire products that generate less pollution, consume fewer non-renewable natural resources, and pose less of a threat to human health and to wildlife. Federal agencies spend nearly \$250 billion annually on goods and services.⁶ EPP harnesses this purchasing power to stimulate demand for “greener” products and services, thereby fostering environmentally improved manufacturing processes and increased availability of environmentally preferable products and services.⁷ The Agency’s investment in such tools as life cycle analysis enables purchasers to evaluate the environmental performance of products and promotes “green” products that generate less pollution throughout their entire life cycle - from manufacturing to disposal.



The basis of this cabinetry is a bio-based material created from an abundant agricultural fiber, sunflower hulls bound together with soybean-based resin and sealed with citrus oil.

In recent years, EPP has focused on the development of tools and information to help purchasers make environmentally conscious purchasing decisions and to move the Agency towards meeting its annual program goals. As a result of these efforts, EPP participants have at their disposal a wide array of tools and information resources. For instance, BEES (Building for Environmental and Economic Sustainability), a tool developed by the National Institute of Standards and Technology and supported by EPA’s EPP program, provides life cycle environmental impact information for building products. The EPP Database provides the underlying environmental criteria, standards and specifications for numerous products.⁸ These efforts are supported by an outreach program that includes a comprehensive website, regular publication of the *EPP Update*, and frequent presentations and exhibits at conferences.

In FY 2005, EPA will continue to implement major efforts in partnership with other federal agencies, such as a coordinated interagency effort to “green” janitorial services at Federal facilities by providing federal building managers with model contract language and guidance of

⁶GAO Report No. 03-443, April 2003. “A Report to the Committee on Government Reform, House of Representatives, and the Committee on Governmental Affairs, U.S. Senate.

⁷ U.S. Environmental Protection Agency, Office of Pollution Prevention and Toxics. Environmentally Preferable Purchasing Web Site: <http://www.epa.gov/opptintr/epp>. Accessed September 9, 2003.

⁸ www.epa.gov/opptintr/epp/database.htm

how to green janitorial services contracts, implementing EPA's new on-line ordering system for "green" office supplies, development of a database with model green specifications for construction products aimed at helping federal agencies, and development of an assessment tool for electronic products. New initiatives will focus on launching a tool to help purchasers assess the environmental impacts of electronic assets and the provision of technical assistance in interpreting life cycle environmental impact information for the USDA Bio-Based Products program. These efforts will make environmentally preferable purchasing easier for federal agencies, by giving agencies the easy-to-use tools and technical assistance needed to make decisions about green purchasing choices. By increasing federal purchases of green products, agencies will be able to go beyond compliance with "Greening" Executive Orders.

Green Suppliers Network: The voluntary Green Suppliers Network (GSN) builds on the premise that cost effective lean manufacturing, pollution prevention and environmental protection can be the result of good business planning and practice. Through an innovative partnership with EPA, the National Institute of Standards and Technology, Manufacturing Extension Partnership (NIST, MEP), and state technical assistance providers, the Green Suppliers Network enables large manufacturers to actively engage all levels of their supply chain in the development of good business approaches to prevent pollution. The Manufacturing Extension Partnerships, using facility workshops, assess manufacturing processes, raw materials, technology and design with the aim of saving money, and protecting the environment at the same time. The GSN effort was launched by EPA in FY 2003 and has recorded significant progress since then.

Through the Green Suppliers Network, suppliers are able to continuously improve products and processes, increase energy efficiency, identify cost-saving opportunities, and optimize resources and technologies with the aim of eliminating waste. The program model was first tested in a successful pilot program with the Saturn Corporation, a subsidiary of the General Motors Corporation. Under the Saturn pilot, four manufacturing workshops identified sixteen potentially valuable environmental improvement opportunities and corresponding solutions. Eleven were opportunities for product or process design improvements and increased financial value. The environmental benefits of the workshops were a reduction in electricity consumption of about 1.9 Million kWh, CO₂ emission reduction of about 80,000 pounds, transportation fuel use reduction of about 3,600 gallons and solid waste disposal reductions of about 300,000 pounds. The economic value of the workshops was a total potential direct operating cost savings (annually) of approximately \$360,000 in addition to reductions in such indirect costs as regulatory reporting and other compliance requirements⁹.

Following the Saturn project, General Motors engaged EPA in a more formal partnership involving its suppliers. This partnership, launched in October 2002, is an official trade association called the Suppliers' Partnership for the Environment (SP). SP is the automotive arm of GSN. The purpose of the SP effort is to develop a system to minimize the environmental impact of the GM manufacturing process up and down the supply chain through active engagement with suppliers. To achieve this, large companies need their suppliers to be better business performers by employing P2 practices which result in materials efficiency and cost savings.

⁹ "Greening the Supply Chain Pilot, Phase 1 – Mapping the Saturn Supply Chain," August 12, 2002

Today the Suppliers' Partnership for the Environment, an independent network, is open to all auto manufacturers and suppliers. While currently it consists of General Motors working with its suppliers through the NIST/MEP technical assistance, the SP is continuing to expand to include more of the GM and Daimler-Chrysler supply chain and it may soon include the supply chains of other Original Equipment Manufacturers.

In FY 2005, the Green Suppliers Network will continue to expand partnerships with the aerospace, automotive, office/home furniture, healthcare/pharmaceutical, farm/construction and appliances sectors; pursue four additional industry sectors; furnish training needed by MEP centers; form collaborations with other federal agencies (such as DOE's Office of Industrial Technologies) and with States; measure and evaluate program results; and coordinate with other EPA voluntary programs, including WasteWise, Performance Track and Energy Star.

Through these partnerships, the Green Suppliers Network will continue to focus on establishing lean manufacturing practices that incorporate energy and material efficiency as well as process optimization within the supply chain. GSN is uniquely designed to capture the environmental impacts of product specification throughout the supply chain. By encouraging suppliers to identify obstacles such as outdated specifications or regulations, the GSN provides a forum for identifying options for change. This third-party forum for information transfer helps to minimize the liabilities associated with direct communications between the customer and the supplier. Therefore, under the GSN, manufacturers are able to address product and process design for the environment issues.

EPA's GSN efforts have already produced quantifiable environmental results through its initial pilot efforts in FY 2002 and in its initial year since being formally launched in FY 2003. In FY 2005, this successful program will increase these results by working with the National Institute for Standards and Technology (NIST) Manufacturing Extension Partnership (MEP) to strongly encourage State P2 technical assistance providers and local MEP centers to form collaborative relationships under GSN; developing a GSN communication strategy and infrastructure such as a website to increase information flow with all participants; developing pollution prevention tools for chemical management services, green purchasing specifications and energy efficiency innovations; assisting US sectors in extending GSN to foreign suppliers, particularly those in the NAFTA region; and preparing GSN for international replication by working with international partners through the Commission for Environmental Cooperation (CEC) and the OECD. EPA increased its outcome-based FY 2005 P2 Annual Performance Measures to reflect the increased results anticipated from these expanded activities, though the full impact of outreach and technical assistance will take a full year or longer to develop.

Green Chemistry: The Green Chemistry program supports research, development and use of innovative chemical technologies that can replace more toxic chemicals. Through voluntary partnerships with universities and colleges, industry and trade organizations, and State and federal government agencies, the Green Chemistry program helps provide the technical tools needed to develop and implement scientifically sound and cost-effective alternatives and to reduce our nation's chemical vulnerabilities. The Green Chemistry Challenge Awards program offers high-level recognition for the best examples and stimulates additional efforts and measurement of results.

In FY 2003, the Green Chemistry program undertook an effort to more narrowly focus on identifying targeted audiences not currently involved in green chemistry product and process design and specific high priority chemicals, products, and/or processes for which safer alternatives are not available. As part of this effort, the program began working with its partners to investigate incentives as well as barriers to adoption of green chemistry practices, particularly by industry. Initial findings are varied. Barriers identified, for example, include technical and economic issues, data ownership and proprietary issues, and customer needs and perceptions. These efforts will be expanded in FY 2004 and are of particular interest to the program's research and international partners.

The Green Chemistry Program's current shift in focus to more targeted audiences and topics is expected to continue into FY 2005. Efforts aimed at gaining an understanding of incentives and barriers to mainstreaming green chemistry practices as well as increased State involvement will shape the program's research, recognition, and outreach efforts in 2005. In the area of education, the program's original goals of initially providing general materials to a target scientific audience have been met. In addition, these initial education efforts have been sufficiently leveraged with key partners. As such, EPA's involvement in green chemistry education in 2005 and beyond is expected to be advisory in nature rather than leadership-oriented.

EPA's Green Chemistry Challenge Program has proven its ability to deliver quantifiable environmental results, contributing directly to EPA's long-term strategic and annual outcome-based pollution prevention performance measures. Additional resources in FY 2005 will enable this successful program to increase these results by expanding and targeting its focus on existing and emerging chemicals of concern. Initial targets for development of substitutes will include supply side reductions (via process and product improvements) for chemicals already listed on EPA's Waste Minimization Priority Chemicals List, which are also a target of the Resource Conservation Challenge, and emerging chemicals of concern such as brominated flame retardants used in flexible foam, perfluorinated acids and PBT chemicals. EPA will specify the parameters that will make substitutes environmentally preferable, such as chemically incorporating flame retardants into the foam matrix to control unintended migration during use. As in the current Green Chemistry Challenge program, chemical manufacturers as well as academics and others will be encouraged to participate. New emphasis will be placed on ability to bring substitutes to market, ensuring that the results promised by these new innovations are actually realized.

Eliminating 270 Million Pounds of Pollutants

By the end of FY 2005, EPA expects that over 575 million pounds of hazardous chemicals and solvents will have been eliminated through the Green Chemistry Challenge Award Program. Initiated in 1996, the Presidential Green Chemistry Challenge Award program has achieved significant pollution prevention by reducing the quantity of hazardous chemicals and solvents in the environment through the adoption of safer technologies and chemicals. Thus far (through FY 2003), cumulative pounds of solid hazardous chemicals and solvents eliminated are 270 million pounds; cumulative gallons of hazardous chemicals and solvents eliminated are seven million gallons.¹⁰

Substances eliminated include chlorofluorocarbons (CFCs), volatile organic solvents (VOCs), persistent, toxic, and bio-accumulative chemicals and solvents, as well as very corrosive and toxic chemical substances. The program is also positively impacting water and energy uses.

¹⁰ U.S. EPA, Office of Pollution Prevention and Toxics. *Green Chemistry Tracking System*. Internal Database. Continually updated.

The Green Chemistry program was reviewed for the 2004 and 2005 President's Budgets with the Administration's Program Assessment Rating Tool (PART) for the New Chemicals Program, discussed in Goal 4. The program has shown very strong purpose, management, and outcome performance, which contributed to an increased rating for the New Chemicals PART from "Adequate" to "Moderately Effective".

Green Engineering: The Green Engineering program seeks to incorporate "green" or environmentally conscious thinking and approaches into the daily work of chemical and environmental engineers. While traditional engineering approaches to pollution prevention often focus on waste minimization - placing less emphasis on risk factors such as exposure, fate, and toxicity - EPA's Green Engineering program encourages consideration of these factors in the design, commercialization, and use of chemical products and the development of feasible, economical processes that minimize generation of pollution at the source.

The focus of the Green Engineering Program in the past few years has been on the academic community. To accomplish its goals, the Green Engineering Program first developed modules and a standardized textbook, published in 2001 and titled *Green Engineering: Environmentally Conscious Design of Chemical Processes and Products*,¹¹ which can be used by universities for Green Engineering courses to provide starting references for practicing engineers. Over the past few years, the Green Engineering Program has also worked with the universities and the American Society of Engineering Education's Chemical Engineering Division (ASEE/ChE) to develop "Green Engineering champions" and to incorporate Green Engineering into Chemical Engineering curricula. The aim is to develop future chemical engineers with Green Engineering training.

To date, over 200 professors from 90 schools have attended Green Engineering Educators workshops. The Green Engineering textbook is used and/or incorporated in about 40 to 50 chemical/environmental engineering schools in the U.S. as well as in several other countries. As part of the Green Engineering Educators workshops, attendees also receive hands-on training and education on a number of selected EPA risk-based tools and other risk-based/green engineering design tools that can be used to develop greener process syntheses and designs of new or existing chemical processes and operations.

The focus of the program to date has been on chemical engineers. There has been substantial interest from other engineering disciplines, as well as States, to incorporate Green Engineering approaches and tools into their own curricula. The Green Engineering Program started to engage other engineering disciplines via the first multi-disciplinary conference on "Green Engineering: Defining the Principles," held in May 2003. An outcome of the conference was a set of principles that can be incorporated into the education and practice of all engineering disciplines. To achieve more tangible and quantifiable results, the program will start developing plans for a number of projects involving engineers and scientists from academia, industry, and government.

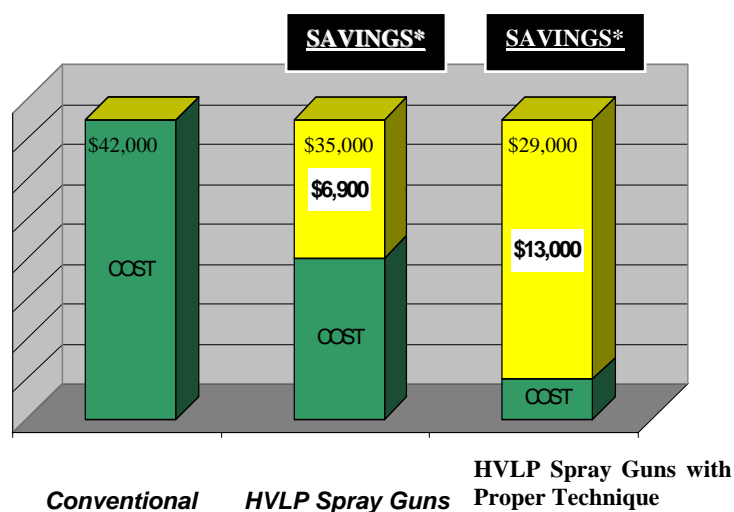
The focus in FY 2005 will be on implementation of specific projects and activities which will result in quantifiable environmental benefits, including the following activities:

¹¹ U.S. EPA, Office of Pollution Prevention and Toxics, Green Engineering, www.epa.gov/oppt/greenengineering 2001

- Partnerships with research institutions on their green engineering/ sustainable research projects;
- Collaboration with professional engineering societies such as the American Institute of Chemical Engineers (AIChE) and the American Society of Mechanical Engineers (ASME) on their annual award programs to recognize green engineering/environmental beneficial projects (criteria will be judged based on application of green engineering principles and approaches developed);
- Work with industry on specific Green Engineering initiatives/projects of high potential environmental benefits;
- Collection of data on application of Green Engineering approaches and tools from people who have received green engineering training (either through ASEE or AIChE);
- Work with ASEE to apply Green Engineering approaches and tools in industry-sponsored Green Engineering projects;
- Work with technical journals to produce special issues recognizing innovative and environmentally beneficial projects and products which apply Green Engineering approaches and tools.

Design for the Environment: EPA's Design for the Environment (DfE) Program partners with industry sectors to facilitate the innovation, identification, and adoption of cleaner products, processes, and technologies. DfE partnerships use a variety of approaches including cleaner technology assessments, life cycle assessments, formulation improvement, best practices, and integrated environmental management systems.¹²

Paint Cost Savings with HVLP



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Over the past decade, DfE has partnered with more than 15 industry sectors, including automotive manufacturing and refinishing, dry cleaning, electronics, foam furniture, industrial and institutional laundries, and printing. DfE partnerships have consistently resulted in

¹² U.S. EPA, Office of Pollution Prevention and Toxics, Design for the Environment, www.epa.gov/dfc

¹³ The chart depicts cost savings associated with DfE's auto refinishing project. * Estimated annual savings, based on 420 gal/yr Courtesy of the STAR Program, IWRC

environmental and health improvements. For example, half of screen printers switched to a cleaner screen reclamation product (1994-1997), 15 percent of printed wiring board manufacturers switched to a cleaner “making holes conductive” technology (1995-1997), dry cleaners decreased their use of perchloroethylene by 37 percent (1997-2001), and foam furniture manufacturers dropped their use of methylene-chloride-based adhesives by 83 percent (1997-2001)¹⁴.

DfE is also driving the innovation of cleaner technologies and reducing worker and public health risks. For example, through DfE’s formulator partnership with industrial laundries, 14 new eco-friendly detergents have entered the marketplace. Annual benefits from just one of these detergents include eliminating use of over 340,000 gallons of toxic chemicals and over 100 million gallons of water saved along with the energy to heat it through improvements in product design that increase water and energy efficiency¹⁵. DfE’s auto-refinishing partnership has conducted best practice site visits at over 50 auto body shops. Partner shops have reduced worker exposure to and emissions of diisocyanates (the leading cause of occupational asthma), organic solvents and other toxic components of paints by as much as 30 percent. They accomplished this while saving roughly \$4,000 per year per shop¹⁶.

Current and recently completed DfE partnerships - including auto-refinishing best practices, computer displays, industrial and institutional laundry detergents, and flexographic printing - are continuing to see reductions in the use of and exposure to toxic chemicals. DfE is transferring its “lessons-learned” to additional industries that use similar chemicals and practices such as the collision repair, paint, insurance, and vocational technical educator sectors. DfE conducted train-the-trainer workshops with these groups to promote best practices. Best practices often save money at the same time they protect workers and the environment; such as the paint spray-gun use illustrated in the chart above. A key focus of the training is to promote awareness of health effects and safe handling techniques, improve paint transfer efficiency, and reduce inhalation and dermal exposure of diisocyanates and other toxic chemicals during spray application and related activities.

Recently, DfE has also been collaborating with EPA Regions on certain industry sector projects. For example, DfE and Region 9 are looking at alternatives to the use of brominated flame retardants in the furniture industry. EPA and the furniture manufacturing industry are initiating a partnership to explore alternatives to both the materials and chemicals used in furniture including foam, fabric, plastics, and batting and their respective flame retardant chemicals. The partnership aims to look holistically at health and environmental issues in the manufacturing process.

In addition, DfE has initiated a partnership with the Industrial Designers Society of America (IDSA). The industrial design sector leads the design of consumer products that sell in high volumes and thereby drive the production and use of many chemicals of concern to EPA. DfE’s industrial design sector partnership will bridge the gap between green chemistry and engineering and their application to green the high production volume consumer products sold, used and disposed of in the U.S. The partnership will focus on developing educational materials for the designer, making information available to facilitate rapid decision making by industrial

¹⁴ <http://www.epa.gov/dfe/projects/index.htm>

¹⁵ Information provided by Noramtech Corporation, correspondence of 11/20/02

¹⁶ <http://www.epa.gov/opptintr/dfe/pubs/auto/trainers/sprayandsave.htm>

designers, recognizing ecological design excellence in high-volume products, and developing product-specific partnerships to achieve measurable results.

In FY 2005, DfE expects to broaden its industrial design partnership to design and bring to production three major consumer items. We will expand the diisocyanate work to additional sectors such as consumer products and casting binders in foundries. DfE will focus on priority chemicals where we can achieve a significant return on our investment. We will ensure that our partnerships obtain measurable reductions of priority pollutants and align with the American Chemistry Council's Responsible Care Program. DfE will finalize the Environmental Security Supplement to the Integrated Environmental Management System Guidance. Other likely partnership candidates include reduction of lead and brominated flame retardants in PVC wiring.

EPA's Design for the Environment (DfE) Program has proven its ability to deliver quantifiable environmental results, contributing directly to EPA's long-term strategic and annual outcome-based pollution prevention performance measures. Additional resources in FY 2005 will enable this successful program to increase these results by expanding its collaborative partnerships to several additional small business sectors. New partnership targets will be determined based on a combination of factors including the level and potential significance of pollution prevention results anticipated and the interest and need of companies in such sectors for EPA technical assistance. Initial sectors under consideration for attention in FY 2005 include optimizing formulations for automotive paint and floor care and finishing products. These sectors offer great opportunity for reduction of Hazardous Air Pollutants and toxic chemicals such as diisocyanates. This high-production volume chemical is the leading cause of occupational asthma. Consideration will also be given to expanding our industry partnership on flame retardants beyond flexible foam. Industry is working to comply with enhanced fire safety standards and would like to partner with EPA to look holistically at furniture to ensure that they do not use flame retardants that could endanger human health or the environment. Some flame retardants have been shown to occur widely in human tissue. Some of the increased results anticipated from these expanded activities will occur in FY 2005, and additional environmental benefits will be measurable in 2006 and beyond as new techniques and technologies are developed.

RCRA Waste Minimization and Recycling

The Resource Conservation Recovery Act (RCRA) Waste Minimization Program works with industries, government agencies, and communities to find ways to help organizations reduce the amount of waste they generate. EPA's newest waste minimization effort is the National Waste Minimization Partnership Program, which is a voluntary program that encourages results by publicly recognizing and showcasing the source reduction, recycling and advanced manufacturing accomplishments of member partners who commit to reducing wastes containing Waste Minimization Priority Chemicals (WMPCs). These chemicals are found in hazardous waste and are documented contaminants of air, land, water, plants and animals.

EPA set goals of reducing 30 priority list chemicals from hazardous waste by 50 percent between 1991 and 2005. In FY 2003, EPA analyzed TRI 2001 data and concluded that a 53 percent reduction (from the 1999 baseline) has been achieved. The Agency anticipates achieving additional reductions of 2 percent per year in 2004 and 2005 (to 55% in 2004; to 57% in 2005) based on the original 1991 baseline, using voluntary programs almost exclusively. In 2004 EPA

and its state partners will develop a new baseline, using 2001 TRI data. By 2008, EPA will reduce the amount of priority chemicals in hazardous waste streams by 10 percent based on 2001 baseline data.

In FY 2005, EPA will implement aspects of the Resource Conservation Challenge through the National Waste Minimization Partnership program to reduce hazardous wastes containing priority chemicals. EPA will sponsor industry workshops, encourage increased technical assistance and information sharing, and publicly recognize industry leaders. Regional and state staffs will encourage partners and aid in identifying waste minimization goals and avenues for achieving them cost-effectively. EPA expects to expand its work from five industrial pilot facilities to other key industrial sectors such as facilities generating lead and cadmium containing hazardous wastes. EPA will also encourage the piloting of chemical management systems which create a positive economic incentive for chemical suppliers to partner in finding ways to reduce chemical use.

Resource Conservation Challenge

The multi-office Resource Conservation Challenge (RCC) challenges all Americans - makers of goods, sellers of goods, and buyers of goods to prevent pollution and promote recycling and reuse; reduce priority chemicals at all life cycle stages; and conserve energy and materials. The RCC is a major national effort to find flexible, yet more protective ways to conserve our valuable resources through pollution prevention, waste reduction and energy recovery activities that will improve public health and the environment. The RCC identifies areas of program focus, or "challenges" that are ready for voluntary partnerships. Each of these challenges works to resolve national environmental problems by finding environmentally acceptable solutions. The program currently is coordinating across EPA offices to address environmental problems in the electronics, buildings, hospitals, paper production, and priority chemicals areas.



Categorical Grant: Pollution Prevention

Pollution Prevention Grants to States and Tribes help support a technical assistance, education and outreach infrastructure at the local level to assist businesses and industries in identifying better strategies and solutions to reducing waste and pollution at the source.¹⁷ The grants also stimulate new non-regulatory strategies to preventing pollution. State and Tribal pollution prevention programs address the transfer of potentially harmful pollutants across all environmental media: air, water, and land.

P2 grant projects have demonstrated that facilities have many opportunities to protect the environment by implementing pollution prevention, and that source reduction can be a cost-effective way of meeting or exceeding Federal and State regulatory requirements. Successful P2

¹⁷ U.S. Environmental Protection Agency, Office of Pollution Prevention and Toxics. Pollution Prevention Grants Web Site, <http://www.epa.gov/p2/grants/index.htm>. Accessed September 9, 2003.

grant projects have yielded decreases in facility emissions and discharges which lead to less stringent regulatory and permitting requirements, increases in production rates that correlate to decreasing environmental costs, elevated investments in new and better technologies, and savings that directly impact the overall profitability of a business. EPA recently completed a summary of the P2 grant program from 1988 that includes an analysis of funding by organization type, sectors targeted, and activities conducted. (<http://www.epa.gov/p2/grants/state/index.htm>)

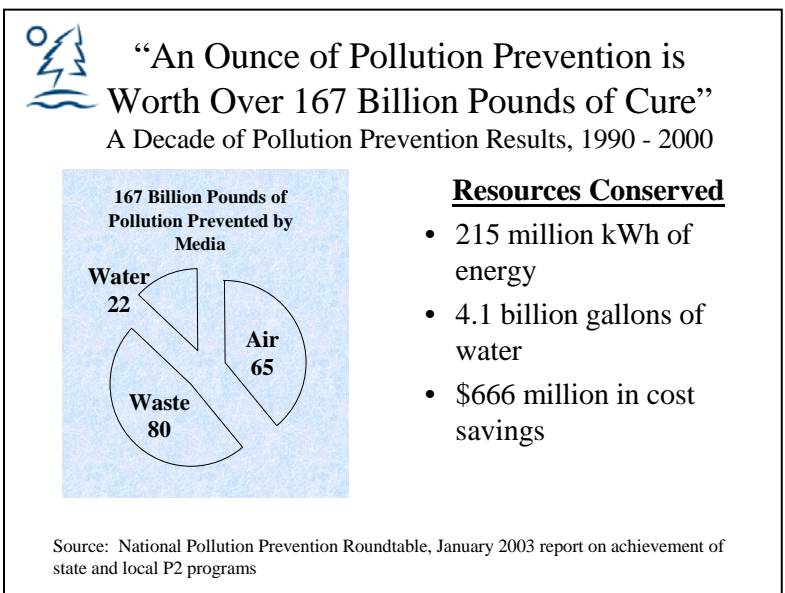
EPA is working to strengthen the nation's network of regional State and Tribal Pollution Prevention Roundtables. The Regional Pollution Prevention Roundtables support pollution prevention and "beyond regulatory compliance" activities through information sharing, issue discussion and program development among member organizations. The Roundtables are collections of regional pollution prevention professionals that share a common mission to prevent pollution before it becomes a problem. They serve as forums to share ideas and discuss successful efforts at preventing pollution and to discuss issues and share technical information and thereby save time, money and resources.

In FY 2003, the National Pollution Prevention Roundtable conducted a state survey and produced a report entitled "An Ounce of Pollution Prevention," which summarized pollution prevention results from the states over the last ten years. The report revealed that more than 167 billion pounds of pollution were prevented, not just treated and controlled. In addition, more than 4 billion gallons of water were conserved.

Effective management of government operations requires measuring the results of our work. EPA will work with the National Pollution Prevention Roundtable to develop a national pollution prevention results reporting system that will provide annual information on a core set of pollution prevention result measures. These P2 performance measures will also be incorporated into the P2 State Grants so that states will focus some of their efforts on the measurement of the results of their program activity.

EPA will also work to build pollution prevention activities and infrastructure on Tribal lands and better coordinate Tribal and State pollution prevention activities through Tribal participation in the nationwide pollution prevention roundtables.

P2 State and Tribal Assistance Grants have proven their ability to deliver quantifiable environmental results, contributing directly to EPA's long-term strategic and annual outcome-based pollution prevention performance measures. Additional resources in FY 2005 will enable this successful program to increase these results by allowing EPA to use internal EPM funds to support the P2Rx network, allowing at least \$1 million of P2 STAG funds currently supporting



this work to be redirected to State and Tribal grantees. EPA increased its outcome-based FY 2005 P2 Annual Performance Measures to reflect the increased results anticipated from these expanded activities.

Categorical Grant: Environmental Information

This program encourages state and other partners' data integration efforts and their participation in the Network. State, Tribal, and EPA data on the Network will both facilitate understanding of various environmental issues and serve as a precursor to understanding the data needed to fully comprehend environmental conditions and trends and, thus, make better-informed environmental and human health decisions.

The program has four main parts: Network Readiness; Implementation; Collaboration; and Support Grants. These grants will increase state and Tribal capacity to integrate their environmental data, reduce reporting burden, enhance electronic reporting, provide public access to data, and participate in the Exchange Network.

Regulatory Innovation

In FY 2005, the Agency will continue to test innovative ideas through demonstration projects, such as those related to integrating Environmental Management Systems into permits, and removing regulatory impediments to "lean manufacturing" techniques.

The Agency will expand its efforts to promote innovative environmental management strategies to states and Tribes through a proposed increase in resources available under the State Innovation Grant Program. By expanding this program with an additional \$750,000, EPA will build on EPA-state collaborations that began in FY 2002. The grant program allows states to test innovative ideas, such as using Environmental Management Systems in the permitting system to improve environmental results while achieving resource efficiencies. Because current technology-based standards don't address upstream pollution reduction and can lock in outdated technologies, EPA wants to support the states in their efforts to promote performance-based alternatives that provide incentives for the development and implementation of new management systems and technologies. The grant program assists states, which are at the front line of permitting and regulatory activities, in improving the efficiency of their environmental programs -- a high priority given shrinking state resources.

Five Key Traits of Enhanced Environmental Protection

1. Focus on environmental performance and results
2. Emphasize greater environmental responsibility, not just pollution control
3. Integrate environmental management more fully across facilities, problems, and media
4. Use market-based incentives to achieve environmental goals
5. Emphasize partnership and stakeholder collaboration.

In FY 2005, EPA will broaden its capacity to conduct program evaluations of innovative projects and investments, including supporting third-party evaluations. This work responds directly to criticism from Congress, OMB, and GAO about the Agency's capacity for evaluating innovation and for explaining the environmental outcomes of its regulations, policies and activities. It also responds to the "Budget and Performance Integration" component of the

President's Management Agenda and subsequent calls for Agency evaluation results by the Office of Management and Budget.

Successful environmental pilot project tools and techniques will be evaluated and replicated to drive these innovative approaches deeper into EPA and State core programs. For example, in 2005, EPA will continue to facilitate the transfer to states and priority environmental problem areas the Environmental Results Program (ERP) model. This innovation originated in Massachusetts in the late 1990s. The ERP model interactively links compliance assistance, self-certification and performance measurement. This approach gives small business owners/operators better knowledge and understanding of their regulatory requirements, provides detailed measurement data on the performance of individual facilities as well as whole business sectors, and assists state regulatory agencies in targeting their technical assistance and enforcement efforts. Nine states are implementing ERP projects across seven small-business dominated sectors.

Strong partnerships with businesses, states and Tribes are an important element of EPA's Innovations Strategy. In FY 2005, the Agency will implement a Performance Track Corporate Recognition Program, an extension of the current facility-based recognition program. Through program feedback and evaluation, EPA continues to improve the Performance Track program and in FY 05, will reduce administrative burdens and increase flexibility in ways that allow greater efficiency and enable members to achieve and measure beyond-compliance performance.

EPA seeks to establish Performance Track as a "gold standard" for environmental performance – a standard that facilities will strive to attain. To encourage facilities to aim for this standard, EPA adds value to Performance Track membership through recognition, networking, and regulatory and administrative incentives.

In FY 2005, EPA will make greater use of the *Sector Strategies Program* to achieve better environmental results with greater efficiency. The program will begin to implement sector strategies with 12 major industrial and service sectors through regulatory changes designed to reduce productivity barriers, and through targeted approaches such as environmental management systems to prompt sector-wide stewardship. The Agency will extend participation in the program through more multi-sector initiatives and greater state involvement, following the model of the successful public dialogue convened in FY 2004 on barriers to beneficial reuse of industrial materials. EPA also will expand the use of these collaborative sector partnerships to explore new ways of doing business, drawing upon the expertise and impact of sector partners to craft strategies for market-based approaches, targeted technology development, greater voluntary stewardship, and collective problem solving in support of the Agency's mission and goals.

The Office of Policy, Economics and Innovation continues to work on implementing the National Environmental Performance Track Program (NEPT). NEPT is a program designed to motivate and reward companies and other regulated entities that are top environmental performers to recognize facilities that consistently meet their legal requirements, implemented EMS, and made tangible improvements to their environmental performance. Entry criteria include showing implementation of an EMS, presenting a record of continued compliance, certifying current compliance, demonstrating specific environmental achievements, and committing to future improvements, including public outreach and annual performance reporting (including summaries of audit findings). Incentives for participation include Agency recognition,

lowered priority for routine inspections, access to Audit Policy penalty mitigation and recognition of good faith participation in the program in case of a discretionary penalty assessment.

In addition, the Office of Policy, Economics and Innovation participates in projects under the 1998 Joint EPA/State Agreement on Innovation and other innovative partnerships. The enforcement program will focus on ensuring these projects are legally enforceable where necessary, and will provide accountability and transparency for federal and non-federal facilities participants. The program also assists in verifying and evaluating project results.

In FY 2005, OPEI is funding the enhancement and transfer of the innovative Massachusetts Environmental Results Program (ERP). ERP consists of a set of three linked tools— compliance assistance, inspections, and performance measurement, including an annual certification of compliance signed by a senior company official. ERP has improved performance for small businesses, and resulted in savings for these businesses, allowing the State and EPA to focus resources on higher priority environmental problems. The Agency will continue to provide technical and legal assistance to states developing an ERP, as well as foster the sharing of information and materials between states.

Last but not least, in FY 2005, OPEI will continue to assure that EPA responsively addresses small business environmental issues, and assists small business to improve their environmental performance through innovative and cost-effective mechanisms. These efforts will be guided by the newly revised Small Business Strategy through a process that involves: 1) developing new and innovative outreach vehicles; 2) building a better knowledge base; 3) setting priorities for developing regulations, policies and other initiatives; 4) unifying and coordinating programs within EPA; and, 5) measuring and evaluating the results of these efforts.

Regulatory/Economic Management and Analysis

EPA will promote the use of economics in the design and assessment of management solutions to environmental issues facing Agency decision makers. The Agency will support the development of economic tools to apply in analyses of the economic benefits, costs and impacts of regulatory programs. Using economic tools in the design and assessment of management solutions to environmental issues will aid in the cost-effective use of Agency and societal resources. In addition, EPA will conduct and supervise research and development on economic analytic methods; lead production of cross-Agency economic reports; provide guidance for performing economic analyses; and promote consistency in the preparation and presentation of economic information in the Agency.

The causes and consequences of environmental problems have important economic dimensions. This is why environmental economic analysis is critical to the development and implementation of effective and progressive environmental policy.
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EPA will continue to improve the Agency's regulatory and policy development process in FY 2005. The Agency will strengthen the policy analysis of key regulatory and non-regulatory actions, improve the regulatory and policy action information management system, and improve the economic analysis underlying Agency actions. Multimedia analysis will include policy option analysis, regulatory analysis, and analysis of innovative policy approaches.

The regulatory development process ensures the Agency's compliance with various statutes and Executive Orders. Through improved and streamlined regulatory processes that include increased public access, EPA is working to provide quality information to stakeholders. In FY 2005, the Agency will continue to advance these objectives by ensuring that EPA rulemakings adhere to all applicable statutory and executive requirements, and achieve environmental results with a minimum burden on the public. The Agency will continue its outreach to small businesses, small governments, and small non-profits, establishing formal mechanisms to build small entity partnership involvement in Agency rulemakings. EPA will complete Regulatory Flexibility analyses for all rulemakings that may have a significant impact on a substantial number of small entities, and will continue a small community's outreach program to gather information on the potential impact of EPA's rules on small communities.

State and Tribal Performance Grant Fund

EPA will make available in the FY 05, through a competitive process, \$23M to states and tribes for all activities normally eligible for categorical grant assistance. The award process will be performance focused, with winners selected on the basis of the proposed environmental and/or health outcomes. The program will require that grantees show how their proposal directly supports the Agency's mission and strategic plan; consider the availability of matching funds; allow for multimedia approaches; and show tangible performance-based environmental or health outcomes. These grants will require that the grantees design up-front and build into the program performance measurement, the ability to evaluate the effectiveness of the program so that we can learn and make good management decisions about investing additional resources. The Performance Grants differ from other grants that may use formula driven resource distribution methods or consider performance measurement after the initial program design. The performance grants will help EPA clearly articulate expectations of states and tribes in terms of environmental results, rather than only of process. These grants will encourage states to experiment with bold forms of regulatory and non-regulatory management, such as facility-wide permits, performance-based management contracts, cap-and-trade systems, pollution taxes or fees, information requirements, collaborative approaches to setting goals and designing strategies for protecting watersheds, and compliance-assistance tools of various kinds. These grants will develop and deploy approaches to environmental protection that can deliver measurable results more effectively or efficiently, and be models for implementation across the nation. The lessons we learn from these performance based competitive grants can help EPA focus limited resources on the most effective strategies and influence the distribution of future grant awards. The grants will generally encourage states to invest their energies in measuring environmental conditions, and in organizing their planning around priorities and strategic goals. The award of grants will be influenced by state planning capability. Within EPA, these grants will help build the infrastructure for multimedia, performance-based management and help cut across the fragmented media based EPA organizational structure.

NEPA (National Environmental Policy Act) Implementation

EPA's Enforcement and Compliance Assurance Program reviews environmental impacts of proposed major federal actions as required by NEPA, §309 of the Clean Air Act, the Antarctic Science, Tourism, and Conservation Act (ASTCA), and the Executive Order on environmental justice; and develops policy and technical guidance on issues related to NEPA, the Endangered Species Act, the National Historic Preservation Act and relevant Executive Orders. The program

emphasizes cooperation with other Federal agencies to ensure compliance with applicable environmental laws and better integration of pollution prevention and ecological risk assessment into their programs, while targeting high impact federal program areas, such as water resources and transportation/energy related projects. The program also manages the Agency's official filing activity for all federal Environmental Impact Statements (EIS) in accordance with a Memorandum of Understanding with the Council on Environmental Quality.

In FY 2005, the Agency will continue to work with other federal agencies to streamline and improve their NEPA process in such key areas as approvals of highways and airport expansions; hydro-power/nuclear power plant re-licensing, coal bed methane development and other energy-related projects; military base closures; flood control and port development projects; and management of national forests and public lands. In FY 2005, 70 percent of the significant impacts identified by EPA during the NEPA review of all major proposed federal actions will be mitigated in order to preserve air and water quality, wetlands, aquatic and terrestrial habitats, and endangered species; to protect Environmental Justice communities; and to prevent degradation of valued environmental resources.

The NEPA Implementation program also guides EPA's own compliance with NEPA and other applicable statutes, and with related environmental justice requirements. These efforts include EPA-issued new source National Pollutant Discharge Elimination System (NPDES) permits in regions where a state/tribe has not assumed the NPDES program; for off-shore oil and gas sources; for Clean Water Act (CWA) wastewater treatment plant grants; and for special appropriation grants for wastewater, water supply and solid waste collection facilities. In FY 2005, 90 percent of EPA projects subject to NEPA Environmental Assessment or Environmental Impact Statement requirements (water treatment facility project and other grants, new source National Pollutant Discharge Elimination System permits and EPA facilities) are expected to result in a finding of no significant environmental impact.

FY 2005 CHANGE FROM FY 2004

EPM

- (+\$5,000,000): This increase is a redirection from the Agency's P2 Research program to other Agency P2 efforts that have shown results in reducing pollution. The following P2 programs will be funded: The Green Suppliers Network will allow the program to increase results by working to encourage both State P2 technical assistance providers and local Manufacturing Extension Partner centers to form collaborative relationships under GSN. The Green Chemistry Challenge Program will focus on existing and emerging chemicals of concern, and the DFE Program will expand its collaborative partnerships to several additional small business sectors. The increase will also support the P2Rx network.
- (+\$750,000): Expand the Innovations Grants Program, a program that provides assistance to States and Tribes through a competitive process to support innovative approaches to help meet and exceed regulatory environmental requirements and improve participants' stewardship of and impact on the environment.

STAG

- (+\$23,000,000) Create a new State and Tribal Performance Grant Fund that will be multimedia in scope and competitively awarded based on anticipated performance and results.
- There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

ANNUAL PERFORMANCE GOALS AND MEASURES

GOAL: COMPLIANCE AND ENVIRONMENTAL STEWARDSHIP

OBJECTIVE: IMPROVE ENVIRONMENTAL PERFORMANCE THROUGH POLLUTION PREVENTION AND INNOVATION

Reduction of Industrial / Commercial Chemicals

- In 2005 Prevent, reduce and recycle hazardous industrial/commercial chemicals and improve environmental stewardship practices.
- In 2004 Prevent, reduce and recycle hazardous industrial/commercial chemicals and municipal solid wastes.
- In 2003 FY 2003 data will be available in 2005 to verify the quantity of toxic release inventory (TRI) pollutants released, disposed of, treated or combusted for energy recovery in 2003, (normalized for changes in industrial production) will be reduced by 200 million pounds, or two percent, from 2002.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Reduction of TRI non-recycled waste (normalized)	Data lag	200 Million		lbs
Alternative feed stocks, processes, or safer products identified through Green Chemistry Challenge Award		210		Prod/proc (Cum)
Number of participants in Hospitals for a Healthy Environment		2000		Participants
Quantity of hazardous chemicals/solvents eliminated through the Green Chemistry Challenge Awards Program		150 million		lbs
For eco-friendly detergents, track the number of laundry detergent formulations developed.		36		formulations
Percent reduction in Toxics Release Inventory (TRI) reported toxic chemical releases at Federal Facilities.			32%	Releases (Cum)
Percent reduction in both Toxics Release Inventory (TRI) chemical releases to the environment from the business sector per unit of production ("Clean Index")			20%	Releases (Cum)
Percent reduction in TRI chemicals in production-related wastes generated by the			10%	Waste (Cum)

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
business sector per unit of production ("Green Index").				
Reduction in overall pounds of pollution.			34 Billion	Pounds (Cum)
Millions of dollars saved through reductions in pollution.			134 Million	Dollars (Cum)
Annual cumulative quantity of water conserved			1.5 billion	Gallons (Cum)
Billions of BTUs of energy conserved.			143 Billion	BTU (Cum)

Baseline: The baseline for the TRI non-recycled wastes measure is the amount of non-recycled wastes in 2001 reported FY2003. The baseline for eco-friendly detergents is 0 formulations in 1997. The baseline for the alternative feed stocks / processes measure is zero in 2000. The baseline for the quantity of hazardous chemicals / solvents measures is zero pounds in the year 2000. The baseline for the hospitals measure is zero in FY2001. The baseline reference point for reductions of pollution and conservation of BTUs and water will be zero for 2003. The baseline for money saved will be 2003. The baseline for reduction in CO2 will be zero for 1996. The baseline for the Clean and Green Index would be 2001 levels. The baseline for chemical releases is 2001 level. The baseline for chemical production related wastes is 2001 level. Note: Several output measures were changed to internal-only reporting status in 2005. Annual Performance measures under development for EPA's Environmentally Preferable Purchasing program for the FY2006 Annual Performance Plan.

Innovation Activities

In 2005 Performance Track members collectively will achieve an annual reduction of 600 million gallons in water use; 2.5 million MMBTUs in energy use; 15,000 tons of solid waste; 6,000 tons of air releases; and 10,000 tons in water discharges, compared with 2001 results.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Specific annual reductions in five media/resource areas: water use, energy use, solid waste, air releases, and water discharges.			5	media reductions

Baseline: The baseline year is 2001. The FY 2005 specific reductions planned are that Performance Track members collectively will achieve annual reductions, compared with 2001, of 600M gallons of water used; 2.5M MMBTUs of energy used; 15,000 tons of solid waste; 6,000 tons of air releases; and 10,000 tons of water discharges.

EFFICIENCY MEASURES/MEASUREMENT DEVELOPMENT PLAN

An efficiency measure for the Green Chemistry Program is being developed.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Performance Measure:

Percent reduction in both Toxics Release Inventory (TRI) chemical releases to the environment from the business sector per unit of production ("Clean Index").

Percent reduction in TRI chemicals in production-related wastes generated by the business sector per unit of production ("Green Index").

Percent reduction in Toxics Release Inventory (TRI) reported toxic chemical releases at Federal Facilities.

Performance Database: TRIM: Toxics Release Inventory Modernization, formerly TRIS (Toxics Release Inventory System) provides facility/chemical-specific data quantifying the amount of TRI-listed chemicals entering wastes associated with production process in each year. The total amount of each chemical in production-related wastes can be broken out by the methods employed in managing such wastes, including recycling, energy recovery, treatment, and disposal/release. Amounts of these wastes that are not recycled are tracked for this performance measure.

Data Source: Regulated facilities report facility-specific, chemical-specific release, waste and recycling data to EPA. For example, in calendar year 1999, 22,639 facilities filed 84,068 TRI reports.

Methods, Assumptions, and Suitability: TRI data are collected as required by sections 313 of EPCRA and 6607 of Pollution Prevention Act (PPA) (40 CFR ' 372; www.epa.gov/tri/). Only certain facilities in specific Standard Industrial Classification (SIC) codes are required to report annually the quantities of over 650 listed toxic chemicals and chemical categories released to each environmental medium and otherwise managed as waste (40 CFR ' 372; www.epa.gov/tri/). Regulation requires covered facilities to use monitoring, mass balance, emission factors and/or engineering calculations approaches to estimate releases and recycling volumes. For purposes of the Clean and Green Index performance measures, data controls are employed to facilitate cross-year comparisons: a subset of chemicals and sectors are assessed that are consistently reported in all years; data are normalized to control for changes in production using published U.S. Bureau of Economic Analysis (BEA) gross product indices (chain-type quantity index for the manufacturing sector). [Please note, the federal facility measure data are not normalized to control for changes in production].

QA/QC Procedures: Most facilities use EPA-certified automated Toxics Release Inventory (TRI) FORM R reporting tools, which contain automated error checking mechanisms. Upon receipt of the facilities' reports, EPA conducts automated edits, error checks, data scrubs, corrections and normalization during data entry and subsequent processing to verify that the information provided by the facilities is correctly entered in TRIM. The Agency does not control the quality of the data submitted by the regulated community. EPA does, however, work with the regulated community to improve the quality of their estimates.

Data Quality Review: The quality of the data contained in the TRI chemical reports is dependent upon the quality of the data that the reporting facility uses to estimate its releases and other waste management quantities. Use of TRI Form R by submitters and EPA's performance data reviews combine to help assure data quality. The GAO Report, Environmental Protection:

EPA Should Strengthen Its Efforts to Measure and Encourage Pollution Prevention (GAO - 01 - 283), recommends that EPA strengthen the rule on reporting of source reduction activities. Although EPA agrees that source reduction data are valuable, the Agency has not finalized regulations to improve reporting of source reduction activities by TRI-regulated facilities.

Data Limitations: Use of the data should be based on the user's understanding that the Agency does not have direct assurance of the accuracy of the facilities' measurement and reporting processes. TRI release data are reported by facilities on a good faith, best-estimate basis. EPA does not have the resources to conduct on-site validation of each facility's reporting data, though on-site investigations do occur each year at a subset of reporting facilities.

Error Estimate: From the various data quality efforts, EPA has learned of several reporting issues such as incorrect assignment of threshold activities and incorrect assignment of release and other waste management quantities (EPA-745-F-93-001; EPA-745-R-98-012; www.epa.gov/tri/tridata/data_quality_reports/index.htm; www.epa.gov/tri/report/index.htm.)

For example, certain facilities incorrectly assigned a 'processing' (25,000 lb) threshold instead of an 'otherwise use' (10,000 lb) threshold for certain non-persistent, bioaccumulative and toxic (PBT) chemicals, so they did not have to report if their releases were below 25,000 lbs. Also, for example, some facilities incorrectly reported fugitive releases instead of stack releases of certain toxic chemicals.

New/Improved Data or Systems: EPA plans to develop regulations for improving reporting of source reduction activities by TRI reporting facilities.

References: www.epa.gov/tri/ and additional citations provided above. (EPA-745-F-93-001; EPA-745-R-98-012; <http://www.epa.gov/tri/report/index.htm>; www.epa.gov/tri/tridata/data_quality_reports/index.htm; www.epa.gov/tri/report/index.htm Bureau of Economic Analysis (BEA) indices are available at <http://www.bea.gov/bea/regional/gsp/>

FY 2005 Performance Measure:

- **Reduction in overall pounds of pollution**
- **Billions of BTUs of energy conserved**
- **Billions of gallons of water saved**
- **Millions of dollars saved through reductions in pollution**
- **Reduction in carbon dioxide (CO₂) emissions from a baseline year of 1996. (Green Chemistry only)**

The Agency's Pollution Prevention programs include Green Chemistry, Design for the Environment, Green Engineering, and other Pollution Prevention (P2) Programs. Each of these programs operate under the principles of the Pollution Prevention Act and work with others to reduce waste at the source, before it is generated. These programs are designed to facilitate the incorporation of pollution prevention concepts and principles into the daily operations of government agencies, businesses, manufacturers, nonprofit organizations, and individuals.

Performance Database:

Green Chemistry (GC): EPA is developing an electronic database (“metrics” database) which will allow organized storage and retrieval of green chemistry data submitted to EPA on alternative feedstocks, processes, and safer chemicals. The database is being designed to store and retrieve, in a systematic fashion, information on the environmental benefits and, where available, economic benefits that these alternative green chemistry technologies offer. The database is also being designed to track the quantity of hazardous chemicals and solvents eliminated through implementation of these alternative technologies.

Design for the Environment (DfE): DfE does not have a performance database. Instead, DfE is planning to develop an evaluation spreadsheet for its main project approaches (i.e., Life Cycle Assessment, Formulator, Best Practices, Cleaner Technology Substitutes Assessment, and Supply Chain). Spreadsheet content will vary by approach, and generally will include measures comparing baseline technologies or products to “cleaner” ones, as well as information on partner adoption and/or market share of cleaner alternatives; for example, the DfE formulator approach tracks chemical improvements (such as pounds of chemicals of concern no longer used by partners, and conversely pounds of safer ingredients) and resource savings. This information will allow benefit calculations.

Green Engineering (GE): Similar to the Green Chemistry Program, EPA will be developing an electronic database to keep track of environmental benefits of GE projects including, gallons of water, British Thermal Units (BTUs) and dollars saved and pounds of carbon dioxide (CO₂) emissions eliminated.

Pollution Prevention (P2) Programs: EPA is working with state and local P2 programs to develop a national database that will provide data on environmental outcomes (the core P2 metrics included in the above performance measure). Many EPA Regional offices’, state and local P2 programs are currently collecting data on P2 program activities, outputs, and outcomes. EPA will be working with these programs to reach consensus on standardized metrics, including definitions, and to establish an ongoing system to gather data on these metrics. The system will include new reporting requirements in EPA P2 grants and the cooperation of key stakeholder groups, such as the National Pollution Prevention Roundtable (which produced a January 2003 report providing baseline data on the above metrics for the period 1990-2000). Data collected from the program will be placed in a new national database, facilitating convenient data storage and retrieval.

Data Source:

Green Chemistry (GC): Industry and academia submit nominations annually to OPPT in response to the Presidential Green Chemistry Challenge Awards. Environmental and economic benefit information is included in the nomination packages. The metrics database pulls this benefit information from the nominations.

Design for the Environment (DfE): The source of DfE’s evaluation information varies by the approach and the partner industry. For example, in DfE’s formulation improvement partnerships, partners provide proprietary information on both their original formulation and their environmentally improved one. Partners sign a memorandum of understanding with EPA/DfE which includes information on how the company uses cleaner chemistry to formulate a product, the environmental and health benefits of the product, and customer and sales

information. For other partnerships, data sources typically include technical studies (e.g., cleaner technology substitutes assessments, life-cycle assessments) and market/sales/adoption information from associations.

Green Engineering (GE): Data will come from profiles of recognized projects by technical journals or organizations, such as the American Institute of Chemical Engineers, or directly reported by project leaders on industry projects or joint academia-industry projects.

Pollution Prevention (P2) Programs: State and local P2 programs will submit data as described above.

Methods, Assumptions, and Suitability:

Green Chemistry (GC): This is an output measure tracked directly through OPPT record-keeping systems. No models or assumptions or statistical methods are employed.

Design for the Environment (DfE): Methods and assumptions vary by approach and partner industry. Each DfE partnership identifies and focuses on a unique set of chemicals and industrial processes. For most DfE approaches, the general method is to 1) develop a model for a “typical” or “average” facility, 2) assess the differences between traditional and alternative technologies on metrics such as toxics use, resource consumption, cost, and performance, 3) track market share of alternative technologies over time, and 4) multiply the increase in use of alternative, cleaner technologies by the environmental, cost, and performance differences identified in Step 2. Through this quantitative process, the Agency is able to calculate the benefits generated by the cleaner technology: e.g. how much toxics use reduction is occurring, how much less resources are consumed? Similarly, for DfE’s formulation improvement approach, the method is to analyze environmental (e.g., toxics use, resource consumption) and cost differences between the old and improved formulations. This proprietary information is provided by our partners and sales information. For each approach, we will develop a spreadsheet that includes the methods and assumptions.

Green Engineering (GE): The information will be tracked directly through EPA record keeping systems. No models or statistical extrapolations are expected to be used.

Pollution Prevention (P2) Programs: The data will come from state and local P2 programs as described above. No models or assumptions or statistical methods are employed.

QA/QC Procedures: All Pollution Prevention and Toxics programs operate under the Information Quality Guidelines as found at <http://www.epa.gov/oei/qualityguidelines/index.html> and under the OPPT Quality Management Plan (QMP). OPPT Quality Management Plan is for internal use only.

Green Chemistry: Data undergo a technical screening review by OPPT before being uploaded to the database to determine if they adequately support the environmental benefits described in the application. Subsequent to OPPT screening, data are reviewed by an external independent panel of technical experts from academia, industry, government, and NGOs. Their comments on potential benefits are incorporated into the database. The panel is convened by the Green Chemistry Institute of the American Chemical Society, primarily for judging nominations

submitted to the Presidential Green Chemistry Challenge Awards Program and selecting winning technologies

Design for the Environment (DfE): Data undergo a technical screening review by DfE before being uploaded to the spreadsheet. DfE determines whether data submitted adequately support the environmental benefits described.

Green Engineering (GE): Data collected will be reviewed to ensure it meets the EPA Quality Guidelines in terms of transparency, reasonableness and accuracy.

Pollution Prevention (P2) Programs: Data will undergo technical screening review by EPA and other program participants (e.g., National Pollution Prevention Roundtable) before being placed in the database. Additional QA/QC steps to be developed, as appropriate.

Data Quality Review: All Office of Pollution Prevention and Toxics (OPPT) programs operate under the Information Quality Guidelines as found at <http://www.epa.gov/oei/qualityguidelines/index.html> and under the OPPT Quality Management Plan (QMP).

Green Chemistry (GC): Review of industry and academic data as documented in U.S. EPA, Office of Pollution Prevention and Toxics, Green Chemistry Program Files available at <http://www.epa.gov/opptintr/greenchemistry/>

Design for the Environment (DfE): Not applicable.

Green Engineering (GE): Data collected will be reviewed to meet data quality requirements.

Pollution Prevention (P2) Programs: The new metrics and data system were based, in part, on recommendations in the February 2001 GAO report, “EPA Should Strengthen Its Efforts to Measure and Encourage Pollution Prevention” (GAO-01-283). They also incorporate work by such organizations as the Northeast Waste Management Officials Association, Pacific Northwest Pollution Prevention Resource Center, and National Pollution Prevention Roundtable.

Data Limitations:

Green Chemistry (GC): Occasionally data are limited for a given technology due to confidential business information (the Presidential Green Chemistry Challenge Awards Program does not process CBI). It also is occasionally unclear what the percentage market penetration of implemented alternative green chemistry technology (potential benefits vs. realized benefits) is. In these cases, the database is so noted.

Design for the Environment (DfE): Occasionally data are limited for a given technology due to confidential business information.

Green Engineering (GE): There may be instances in which environment benefits are not clearly quantified. In those instances, the data will be excluded.

Pollution Prevention (P2) Programs: Limitations arise from the reliance on individual state and local P2 programs to gather data. These programs vary in attention to data collection from sources within their jurisdictions, data verification and other QA/QC procedures. Also, despite

plans described above to move toward consistent metrics and definitions, some differences exist

Error Estimate:

Green Engineering (GE): There may be instances in which environment benefits are not clearly quantified. In those instances, the data will be excluded.

Not applicable for other programs contributing data to this measure.

New/Improved Data or Systems:

Green Chemistry (GC), Design for the Environment (DfE), Green Engineering (GE): The American Chemistry Council (ACC) has initiated an industry self-monitoring program called Responsible Care. Beginning in 2003, member companies will collect and report on a variety of information. Measures tentatively include Toxic Release Inventory (TRI) releases; tons of CO2 equivalent per pound of production; total BTUs consumed per pound of production; systems for assessing or, reassessing potential environmental, health, and safety risks; percentage of products re-evaluated; percentage of commitments for chemical evaluation programs; documentation of process for characterizing and managing product risks; and documentation of communication of risk characterization results. Many of these measures are similar to the EPA program targets identified under Goal 5, Objective 2. These reports may be an invaluable source of industry baseline information. It is important that the EPA programs identified under Goal 5 evaluate the utility of the reports generated under the ACC's Responsible Care Program in support of the EPA's programs as well as the goals of Responsible Care. (CAPRM II, *Chemical and Pesticide Results Measures*, March 2003 pp. 313)

Pollution Prevention (P2) Programs and Hospitals for a Healthy Environment (H2E): See discussion in first item.

References:

Chemical and Pesticide Results Measures II: <http://www.pepps.fsu.edu./CAPRM/index.html>

Green Chemistry (GC): <http://www.epa.gov/opptintr/greenchemistry/>

Design for the Environment (DfE): <http://www.epa.gov/opptintr/dfe/>

Green Engineering (GE): <http://www.epa.gov/opptintr/greenengineering/>

Pollution Prevention (P2) Programs: <http://www.epa.gov/oppt/p2home/index.htm>

FY 2005 Performance Measure: Specific annual reductions in five media/resource areas: water use, energy use, solid waste, air releases, and water discharges.

Performance Databases: Both the Performance Track On-Line (a Domino database) and the Performance Track Members Database (a Microsoft Access database) store information provided to EPA from members' applications and annual performance reports. Both databases contain the same information; in fact, data from PTrack On-Line is transferred electronically to the PTrack Members Database, which is more useful for analysis. Performance Track members select a set of environmental indicators on which to report performance over a three-year period of participation. The externally reported indicators (listed above) may or may not be included in any particular facility's set of indicators. Performance Track aggregates and reports only that information that a facility voluntarily reports to the Agency. A facility may make progress towards one of the above indicators, but if it is not among its set of "commitments", then Performance Track's data will not reflect the changes occurring at the facility. Similarly, if a

facility's performance declines in any of the above areas and the indicator is not included among its set of commitments, that decline will not be reflected in the above results.

Members report on results in a calendar year. Fiscal year 2005 corresponds most closely with members' calendar year of 2005. That data will be reported to the Performance Track program by April 1, 2006. The data will then be reviewed, aggregated, and available for external reporting in August 2006. (Calendar year 2004 data will become available in August of 2005.)

Data Source: All data are self-reported and self-certified by member facilities.

Methods, Assumptions, and Suitability: Data collected from members' applications and annual performance reports are compiled and aggregated across those members that choose to report on the given indicator. The data reflect the performance results at the facility; any improvements or declines in performance are due to activities and conditions at the specific facility. The data should not be interpreted to represent the direct results of participating in the Performance Track program. Additionally, while Performance Track asks that facilities report results of an indicator for the facility as a whole, in some cases facilities report results for specific sections of a facility. This is not always clear in the reports submitted to the program. For example, Member A commits to reducing its VOC emissions from 1000 tons to 500 tons over a 3-year period. In Year 1, it reports a reduction of VOCs from 1000 tons to 800 tons. Performance Track aggregates this reduction of 200 tons with results from other facilities. But unbeknownst to Performance Track, the facility made a commitment to reduce its VOCs from Production Line A and is only reporting on its results from that production line. The facility is not intentionally hiding information from EPA, but it mistakenly thought that its commitment could focus on environmental management activities at Production Line A rather than across the entire facility. Unfortunately, due to increased production and a couple of mishaps by a sloppy technician, VOC emissions at Production Line B increased by 500 tons in Year 1. Thus, the facility's VOC emissions actually INCREASED by 300 tons in Year 1. Performance Track's statement to the public that the facility reduced its emissions by 200 tons is therefore misleading.

The data can be used to make year-to-year comparisons, but reviewers and analysts should bear in mind that Performance Track membership is constantly in flux. Although members should retain the same set of indicators for their three-year participation period, as new members join the program and others leave, the baseline constantly changes.

Due to unavoidable issues regarding the timing of the application period, a small subset of reported data will represent two years of performance at certain facilities, i.e., the baseline will be two years prior rather than one year.

QA/QC Procedures: Data submitted with applications and annual performance reports to the program are reviewed for completeness and adherence to program formatting requirements. In cases where it appears possible that data is miscalculated or misreported, EPA or contractor staff follows up with the facility. If the accuracy of data remains under question or if a facility has provided incomplete or non-standard data, the database is coded to ensure that the data is excluded from aggregated and externally reported results.

Additionally, Performance Track staff visit up to 20% of Performance Track member facilities each year. During those visits, facilities are asked about their data collection systems and about the sources of the data reported to the program.

Performance Track contractors conduct a quality review of data entered manually into the database. Performance Track staff conduct periodic checks of the entered data.

As described, Performance Track is quality controlled to the extent possible, but is not audited in a formal way. However, a prerequisite of Performance Track membership is an environmental management system (EMS) at the facility, a key element of which is a system of measurement and monitoring. Most Performance Track facilities have had independent third-party audits of their EMSs, which create a basis for confidence in the facilities' data.

A Quality Management Plan is under development.

Data Quality Reviews: N/A.

Data Limitations: Potential sources of error include miscalculations, faulty data collection, misreporting, inconsistent reporting, and nonstandard reporting on the part of the facility. Where facilities submit data outside of the Performance Track On-Line system, Performance Track staff or contractors must enter data manually into the database. Manually entered data is sometimes typed incorrectly.

It is clear from submitted reports that some facilities have a tendency to estimate or round data. Errors are also made in converting units and in calculations. In general, however, EPA is confident that the externally reported results are a fair representation of members' performance.

Error Estimate: Not calculated.

New/Improved Performance Data or Systems: As of spring 2004, all Performance Track applications and annual performance reports will be submitted electronically (i.e., through the Performance Track On-Line system), thus avoiding the need for manual data entry. Additionally, the program is implementing a new requirement that all members gain third-party assessments of their EMS.

References: Members' applications and annual performance reports can be found on the Performance Track website at <http://www.epa.gov/performance-track/particip/alphabet.htm>. *Performance Track On-Line* and the *Performance Track Members Database* are not generally accessible. Performance Track staff can grant access to and review of the databases by request.

EFFICIENCY MEASURES/MEASUREMENT DEVELOPMENT PLANS

Environmental Education: Increase by five percent the non-federal matching dollars spent on educational projects by state and local organizations relative to the dollars invested by the EPA Environmental Education Grants.

COORDINATION WITH OTHER AGENCIES

This objective spans a broad range of pollution prevention activities which can yield reductions in waste generation and energy consumption in both the public and private sectors.

For example, the Environmentally Preferable Purchasing initiative, which implements Executive Orders 12873 and 13101, promotes the use of cleaner products by Federal agencies. This is aimed at stimulating demand for the development of such products by industry.

This effort includes a number of demonstration projects with other Federal Departments and Agencies, such as the General Services Administration (in particular, working to more broadly implement green janitorial services in Federal Agencies), the National Park Service (to use Green Purchasing as a tool to achieve the sustainability goals of the parks), Department of Defense (use of environmentally preferable construction materials), and Defense Logistics Agency (identification of environmental attributes for products in its purchasing system). The program is also working within EPA to “green” its own operations. The program also works with the National Institute for Standards and Technology to develop a life-cycle based decision support tool for purchasers.

Under the Suppliers’ Partnership for the Environment program and its umbrella program, the Green Suppliers’ Network, EPA’s Pollution Prevention Program is working closely with the National Institute of Standards and Technology and its Manufacturing Extension Partnership Program to provide technical assistance to the process of “greening” industry supply chains. The EPA is also working with the Department of Energy’s Industrial Technologies Program to provide energy audits and technical assistance to these supply chains.

The Agency is required to review environmental impact statements (EIS) and other major actions impacting the environment and public health proposed by all federal agencies, and make recommendations to the proposing federal agency on how to remedy/mitigate those impacts. Although EPA is required under § 309 of the Clean Air Act (CAA) to review and comment on proposed federal actions, neither the National Environmental Policy Act nor § 309 CAA require a federal agency to modify its proposal to accommodate EPA’s concerns. EPA does have authority under these statutes to refer major disagreements with other federal agencies to the Council on Environmental Quality (CEQ). Accordingly, many of the beneficial environmental changes or mitigation that EPA recommends must be negotiated with the other federal agency. The majority of the actions EPA reviews are proposed by the Forest Service, Department of Transportation (including Federal Highway Administration and Federal Aviation Administration), Army Corps of Engineers, Department of the Interior (including Bureau of Land Management, Minerals Management Service and National Park Service), Department of Energy (including Federal Regulatory Commission), and Department of Defense.

EPA will continue to work with the Small Business Administration, as appropriate, on implementation of SBREFA and other small business issues. The Agency will work with other federal agencies on a broad range of innovation and environmental improvement opportunities using the Sector Strategies and Performance Track programs, coordinating our environmental management programs, and ensuring opportunities to conduct environmental pilot projects with host States.

STATUTORY AUTHORITIES

Antarctic Science, Tourism, and Conservation Act (ASTCA)
Clean Air Act (CAA) section 309 (42 U.S.C. 7609)
Clean Water Act (33 U.S.C. 1251-1387)

Economy Act of 1932
Emergency Planning and Community Right-to-Know Act (EPCRA) (42 U.S.C. 11001-11050)
Endangered Species Act (ESA)
Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) sections 3, 4, 5, 6, 11, 18, 24, and
25 (7 U.S.C. 136a, 136a-1, 136c, 136d, 136i, 136p, 136v, and 136w)
National Environmental Policy Act
Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)
Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6901-6992k)
Safe Drinking Water Act
Small Business Regulatory Enforcement Fairness Act
Solid Waste Disposal Act as amended by the Hazardous Waste Amendments of 1984
Toxic Substances Control Act

Environmental Protection Agency

FY 2005 Annual Performance Plan and Congressional Justification

Compliance and Environmental Stewardship

OBJECTIVE: Build Tribal Capacity

Through 2008, assist all federally recognized tribes in assessing the condition of their environment, help in building their capacity to implement environmental programs where needed to improve tribal health and environments, and implement programs in Indian country where needed to address environmental issues.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Build Tribal Capacity	\$70,556.6	\$78,759.3	\$78,931.1	\$171.8
Environmental Program & Management	\$13,882.1	\$15,687.4	\$15,849.2	\$161.8
State and Tribal Assistance Grants	\$56,212.5	\$62,500.0	\$62,500.0	\$0.0
Building and Facilities	\$87.7	\$73.6	\$79.3	\$5.7
Inspector General	\$374.3	\$498.3	\$502.6	\$4.3
Total Workyears	99.8	99.5	98.4	-1.1

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Categorical Grant: Tribal General Assistance Program	\$56,212.5	\$62,500.0	\$62,500.0	\$0.0
Tribal - Capacity Building	\$9,555.8	\$10,494.1	\$10,641.7	\$147.6
Administrative Projects	\$4,788.3	\$5,765.2	\$5,789.4	\$24.1
TOTAL	\$70,556.6	\$78,759.3	\$78,931.1	\$171.7

FY 2005 REQUEST

Results to be Achieved under this Objective

Under Federal environmental statutes, the Agency has responsibility for assuring human health and environmental protection in Indian Country. EPA has worked to establish the internal infrastructure and organize its activities in order to meet this responsibility. Since adoption of the EPA Indian Policy in 1984, EPA has worked with tribes on a government-to-government basis that affirms the federal trust responsibility that EPA has with each federally recognized tribal government. The creation of EPA's American Indian Environmental Office (AIEO) in 1994 took

responsibility for such efforts and was a further step in ensuring environmental protection in Indian Country.

EPA's strategy for achieving this Objective has three major components. First, work with tribes to create an environmental presence for each federally recognized tribe. Second, provide the information needed by the tribe to meet EPA and tribal environmental priorities. At the same time, ensure EPA has the ability to view and analyze the conditions on Indian lands and the effects of EPA and tribal actions and programs on the environmental conditions. Third, provide the opportunity for implementation of tribal environmental programs by tribes, or directly by EPA, as necessary.

Categorical Grant: Tribal General Assistance Program

Placing an Environmental Presence in Indian Country: Under the authority of the Indian Environmental General Assistance Program (GAP) Act of 1992, EPA provides grants to tribal governments and intertribal consortia for developing the capacity to administer multi-media environmental protection programs. In FY 2005, EPA is requesting \$62.5 million which will provide approximately 500 or 90 % of federally recognized tribes and intertribal consortia with at least one person working in their community to build a strong, sustainable environment for the future. The vital work performed includes locally assessing the status of a tribe's environmental condition, utilizing available federal information, building an environmental program tailored to the tribe's needs, developing environmental education programs, developing solid waste management plans, assisting in the building of tribal environmental capacity, and alerting EPA to serious conditions involving immediate public health and ecological threats. (Note: \$500,000 previously requested for solid waste implementation under Tribal GAP Grants are requested under Goal 3.)

Tribal Capacity Building

Assessing Conditions and Measuring Results: In the past, a lack of comprehensive environmental data has severely impacted EPA's ability to properly identify risk to human health and the environment in Indian Country. Similarly, the tribal environmental presence is unable to identify risk without access to the proper information. AIEO has been in the forefront of working with multiple agencies on a federal interagency Tribal Enterprise Architecture. The Tribal Enterprise Architecture includes access to a wide variety of data and information from several agencies and numerous sources within those agencies. The components of the Tribal Enterprise Architecture create a broad, multiple variant views of the environmental conditions and programs in Indian Country. It also includes several AIEO and jointly developed applications that perform analysis of information on environmental performance in Indian Country for a wide variety of specific purposes.

In FY 2005, resources will be used to continue to develop and maintain the Tribal Enterprise Architecture. EPA will continue to construct an information technology infrastructure that organizes environmental data on a tribal basis, enabling a clear, up-to-date picture of environmental activities in Indian Country. We will continue to take advantage of new technology to establish direct links with other federal agency data systems (including the U.S. Geological Service, Bureau of Reclamation, and Indian Health Service) to further develop this integrated, comprehensive, multi-agency Tribal Enterprise Architecture as well as using

information from numerous other agencies to conduct analysis. This interactive system will allow tribes and EPA headquarters and regional offices to supply management information that supplements data collected by the national and regional federal systems resulting in the availability of more comprehensive data and information. Together, integrating additional data systems and creating the ability to supply data will result in the closing of many data gaps. Significant for data quality aspects of the Tribal Enterprise Architecture, the Agency continues to formalize interagency data standards and protocols to ensure information is collected and reported consistently among the federal agencies by working as the co-lead (EPA with the Department of Interior, Bureau of Indian Affairs) on the Federal Geographic Data Committee (FGDC) Tribal Data Workgroup. The interagency efforts of the Tribal Enterprise Architecture will promote consistency throughout the federal government in assessing environmental conditions in Indian Country and are conducted under OMB Circular A-16.

Implementation of Programs: The ability to comprehensively and accurately examine conditions and make assessments will provide a blueprint for planning future activities through the development of tribal/EPA Environmental Agreements (TEAs) or similar tribal environmental plans to address and support priority environmental multi-media concerns in Indian Country. Vital to the EPA Indian Policy are the principles that the Agency has a government-to-government relationship with tribes and that “EPA recognizes tribes as the primary parties for setting standards, making environmental policy decisions and managing programs for reservations, consistent with agency standards and regulations.” To that end, EPA “encourage[s] and assist[s] tribes in assuming regulatory and program management responsibilities,” primarily through the Treatment in the Same Manner as a State (TAS) processes available under several environmental statutes.

Also, in accordance with EPA’s longstanding policy, the Agency is considering innovative, additional approaches for how EPA and tribes might work together to protect public health and the environment in Indian Country. As part of that effort, EPA is again proposing language for inclusion in the President’s budget that would allow EPA to award cooperative agreements to federally recognized Indian tribes or qualified intertribal consortia to assist the Administrator in implementing federal environmental programs for Indian Country. These cooperative agreements would be made notwithstanding the Federal Grant and Cooperative Agreement Act requirements that Federal agencies use a contract when the principal purpose of a transaction is to acquire services for the direct benefit or use of the United States. Cooperative agreements, rather than a contract under the Federal acquisition regulation, are the preferred funding mechanism, since they better reflect the government-to-government relationship. These cooperative agreements would not be awarded using funds designated for State financial assistance agreements.

The proposed cooperative agreement language would promote tribal participation when EPA is directly implementing Federal environmental programs in Indian Country or for tribes. It would also help tribes build the capacity to achieve TAS status if they wish to do so. While EPA would retain final decision-making authority and ultimate responsibility for all regulatory activities where EPA directly implements federal programs, the proposed language would allow for varying degrees of tribal involvement in assisting EPA in carrying out the federal program depending upon a tribe’s interest and ability in carrying out specific work. Some tribes might perform much of the work for EPA necessary to develop and carry out federal environmental programs. Other tribes might gradually increase their involvement as their capacity to assist

EPA increases over time. In this way, the proposed language would improve environmental protection while also building the capacity and expertise of the tribes to run their own environmental programs.

FY 2005 CHANGE FROM FY 2004

EPM

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

ANNUAL PERFORMANCE GOALS AND MEASURES

Tribal Environmental Baseline/Environmental Priori

In 2005 Assist federally recognized tribes in assessing the condition of their environment, help in building their capacity to implement environmental programs where needed to improve tribal health and environments, and implement programs in Indian country where needed to address environmental issues.

In 2004 Percent of Tribes will have an environmental presence (e.g., one or more persons to assist in building Tribal capacity to develop and implement environmental programs).

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Percent of Tribes with delegated and non-delegated programs (cumulative).		25%		Tribes
Percent of Tribes with EPA-reviewed monitoring and assessment occurring (cumulative).		20%		Tribes
Percent of Tribes with EPA-approved multimedia workplans (cumulative).		18%		Tribes
Increase tribes' ability to develop environmental program capacity of federally recognized tribes that have access to an environmental presence.			90	% Tribes
Develop or integrate EPA and interagency data systems to facilitate the use of EPA Tribal Enterprise Architecture information in setting environmental priorities and informing policy decisions.			5	Systems
Eliminate data gaps for environmental conditions for major water, land, and air programs as determined through the availability of information in the EPA Tribal Enterprise Architecture.			5	% Data Gap
Increase implementation of environmental programs in Indian country by program delegations, approvals, or primacies issued to tribes and direct implementation activities by EPA.			159	Programs
Increase the percent of tribes with environmental monitoring and assessment activities under EPA-approved quality assurance procedures.			5	% Tribes
Increase the percent of tribes w/ multimedia programs reflecting traditional use of natural resources.			5	% Tribes

Baseline: There are 572 tribal entities that are eligible for GAP program funding. These entities are the ones for which environmental assessments of their lands will be conducted.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Performance Measure:

Increase tribes' ability to develop environmental program capacity by ensuring that 90 percent of federally recognized tribes have access to an environmental presence.

Develop or integrate 15 (cumulative) EPA and interagency software applications to facilitate the use of EPA Tribal Enterprise Architecture information in setting environmental priorities and informing policy decisions.

Eliminate data gaps for environmental conditions for major water, land, and air programs as determined through the availability of information in the EPA Tribal Enterprise Architecture.

Increase implementation of environmental programs in Indian Country as determined by program delegations, or primacies issued to tribes and direct implementation activities by EPA.

Increase the percent of tribes with environmental monitoring and assessment activities under EPA-approved quality assurance procedures.

Increase the percent of tribes with multimedia programs reflecting traditional use of natural resources as determined by use of Performance Partnership Grants, EPA/Tribal Environmental Agreements, and other innovative EPA agreements that reflect holistic program integration.

Performance Database: EPA's American Indian Environmental Office (AIEO) has been in the forefront of working with multiple agencies on a federal interagency Tribal Enterprise Architecture under the auspices of OMB Circular A-16 on federal data coordination. The Tribal Enterprise Architecture includes access to a wide variety of data from several agencies and numerous sources within the agencies. It also includes several AIEO-developed applications to analyze environmental performance in Indian Country.

Environmental presence on tribal land is the creation of tribal government infrastructure (FTE and support) to develop program capacity, assess environmental conditions, establish environmental priorities, implement and manage programs that result in environmental improvements. The GAP Grant Tracking System, which is a component of the Tribal Enterprise Architecture, can measure environmental presence, based on tribally reported information. Environmental presence is measured by staffing levels reported; also information is collected on general capacity building, media program, and cross-media activities.

The Tribal Information Management System (TIMS), which is also part of the Tribal Enterprise Architecture, is a web-based application (<http://oasint.rtpnc.epa.gov>) used to access baseline environmental information on federally recognized Indian Tribes. Public access to this information via the web cannot be provided until EPA completes its consultation with the tribes. TIMS contains information about the environmental condition of tribal lands, the nature and

status of regulated facilities there, as well as the nature and extent of tribal environmental management program activities. TIMS is not a static system. It is a real-time system that extracts information from EPA and external data systems as they are maintained and updated by various federal, non-federal, and tribal partners. TIMS is also a vehicle for tribes, federal agencies and non-federal agencies, to develop partnerships, improve communication, and to establish tribal environmental priorities in a coordinated, multimedia, and interagency way.

TIMS generates tribal profiles, which are standardized overviews of environmental conditions and include tribally supplied background (non-environmental) information. The overviews are multi-media and allow further access to specific, detailed, publicly available information. These profiles, in conjunction with other Tribal Enterprise Architecture information: (1) allow EPA to accurately assess the establishment of an environmental presence in Indian Country, and to report results annually as progress toward performance goals; (2) allow EPA to measure trends and changes in environmental conditions and program results over time; and, (3) provide information for tribes and agencies to establish environmental priorities in a coordinated fashion.

Data Sources: Current TIMS data sources are existing federal databases, both from EPA and other agencies, supplemented by data sources collected from the EPA regions as appropriate. All data sources are identified and referenced in the TIMS application. In FY 2004 we expect to formalize interagency data standards and protocols, working with the Federal Geographic Data Committee (FGDC) formed as a result of OMB Circular A-16, to ensure information is collected and reported consistently among the federal agencies. In 2005, AIEO will be working as the co-lead of the Federal Geographic Data Committee (with DOI's Bureau of Indian Affairs) on the FGDC tribal data workgroup.

Methods, Assumptions and Suitability: The methodology for assessments of environmental conditions in Indian Country will be standard statistical methods of analysis of variance. Chi Square and Fisher linear model techniques will be used to evaluate the statistical significance of comparisons of tribal conditions, with regard to specific environmental parameters, compared to the nation as a whole. The data used to develop these statistical inferences are in general non-aggregated point measurements that have been geographically indexed. Sample sizes are generally large enough (often in the hundreds of thousands when evaluating parameters such as regulated facilities) to provide the necessary degrees of freedom to make statistical inferences in spite of the large variance in sizes of reservations in Indian Country. The data are suitable for year-to-year performance comparisons, and also for trend analysis. Forecasting technologies have not yet been tested on the data.

QA/QC Procedures: All the data used in the baseline project have quality assurance and metadata documentation prepared by the originating agency. These will all be described in a Quality Management document: "Manual to TIMS: Tribal Information Management System." AIEO will develop data and metadata standards through its work on the Federal Geographic Data Committee.

Data Quality Reviews: Quality of the external databases will be described but not ranked. Data correction and improvement is an ongoing part of the baseline assessment project. Tribes will have the opportunity to review their Tribal Profiles. Mechanisms for adjusting data will be supplied. Errors in the tribal profile are subject to errors in the underlying data. A special site

<http://db-server.tetrattech-ffx.com/baseline/datacenter> which will be used to: 1) allow direct editing and correction of text of the profiles, 2) submit geographic corrections to maps and boundary files, or submit files of different kinds of political units for analysis, and 3) submit corrections to quantitative data points, and 4) display the bibliography used to compile the TIMS information system.

Data Limitations: The largest part of the data used by the Tribal Enterprise Architecture has not been coded to particular tribes by the recording agency. AIEO uses new geographic data mining technologies to extract records based on the geographical coordinates of the data points. For example, if a regulated facility has latitude and longitude coordinates that place it in the boundaries of the Wind River Reservation, then it is assigned to the Arapaho and Shoshone Tribes of the Wind River Reservation. This technique is extremely powerful, because it “tribally enables” large numbers of information systems which were previously incapable of identifying tribes. This will be applied to all the EPA databases. There are limitations, however. When database records are not geographically identified with latitude and longitude, the technique does not work and the record is lost to the system. Likewise, the accuracy of the method depends on the accuracy of the reservation boundary files. EPA continues to request up-to-date and accurate coverage of reservation boundaries and land status designations from other agencies.

Error Estimate: Analysis of variation of the various coverage of reservation boundaries that are available to EPA indicates deviations of up to 5%. The other source of error comes from records that are not sufficiently described geographically, to be assigned to specific tribes. For some agencies, such as USGS, the geographic record is complete, so there is no error from these sources. It is estimated that 20% of the regulated facilities in EPA regulatory databases are not geographically described, and thus will not be recognized by the AIEO methodology.

New/Improved Data or Systems: The technologies used by the Tribal Enterprise Architecture are all new and state-of-the-art. Everything is delivered on the Internet, with security, and no need for any special software or data disk on the desktop. The geographic interface is an ESRI product called ARC/IMS, which is a web-based application, with a fully functional GIS system that is fully scalable. In FY 2003, the entire system will be rendered in 3D. The Tribal Enterprise Architecture uses XML protocols to attach to and display information seamlessly and in real-time from cooperating agency data systems without ever having to download the data to an intermediate server.

References:

Manual to TIMS: Tribal Information Management System (draft).

http://www.epa.gov/enviro/html/bia/tribal_em.html

<https://oasint.rtpnc.epa.gov/TIMS>

<http://db-server.tetrattech-ffx.comn/baseline/datacenter>

<https://oasint.rtpnc.epa.gov/TATS>

<http://gap-demo.tetrattech-ffx.com>

EFFICIENCY MEASURES/MEASUREMENT DEVELOPMENT PLANS

Tribal General Assistance Program

To measure aspects of efficiency, the Agency will be tracking the number of environmental programs implemented in Indian Country per million dollars (of Gap Funding). The aim is to increase flexibility of Tribal Governments to use GAP funding to address multimedia environmental management issues in Indian Country by leveraging other environmental funding sources. The specific metrics for this measure will track the number of EPA grants per Tribe received for Tribes in the lower 48 states. Development of measures is referenced in the Program Assessment Rating Tool (PART) summary in the Special Analysis section.

COORDINATION WITH OTHER AGENCIES

Solid Waste Interagency Workgroup

EPA and several federal agencies including the Bureau of Indian Affairs, the Indian Health Service, the Federal Aviation Administration, the National Oceanic and Atmospheric Administration, and the Departments of Housing and Urban Development, Department of Agriculture (Forest Service and Rural Utilities Service), and Department of Defense are working collaboratively to identify, prioritize and close solid waste dumps in Indian Country. The Group is focusing on 146 of the highest priority sites from the Indian Health Service's 1997 Report to Congress, entitled "Open Dumps on Indian Lands," which contains an inventory of 1,162 open dumps in Indian Country. Additional agencies are likely to participate as the workgroup further defines its goals and strategy.

Other Examples of Interagency Coordination

EPA and the Department of Interior are coordinating an Interagency Tribal Information Steering Committee that includes the Bureau of Reclamation, Department of Energy, Department of Housing and Urban Development, U.S. Geological Survey, Federal Geographic Data Committee, Bureau of Indian Affairs, Indian Health Service, Department of the Treasury, and Department of Justice. This Interagency effort is aimed to coordinate the exchange of selected sets of environmental, resource, and programmatic information pertaining to Indian Country among federal agencies in a "dynamic" information management system that is continuously and automatically updated and refreshed, to be shared equally among partners and other constituents.

Under a two-party interagency agreement, EPA works extensively with the Indian Health Service to cooperatively address the drinking water and wastewater infrastructure needs of Indian tribes. EPA is developing protocols with the Indian Health Service Sanitation Facilities Construction Program for integration of databases of the two agencies, within the framework of the Tribal Enterprise Architecture.

EPA has organized a Tribal Data Working Group under the Federal Geographic Data Committee, and, along with BIA, is the co-chair of this group. EPA will play a lead role in

establishing common geographic data and metadata standards for tribal data, and in establishing protocols for exchange of information among federal, non-federal and tribal cooperating partners.

EPA is developing protocols with the Bureau of Reclamation, Native American Program, for integration of databases of the two agencies, within the framework of the Tribal Enterprise Architecture. EPA is also developing agreements to share information with the Alaska District, U.S. Army Corps of Engineers.

STATUTORY AUTHORITIES

Act of 1992 as amended (42 U.S.C. 4368b)
Indian Environmental General Assistance Program (GAP)

Environmental Protection Agency

FY 2005 Annual Performance Plan and Congressional Justification

Compliance and Environmental Stewardship

OBJECTIVE: Enhance Science and Research

Through 2008, strengthen the scientific evidence and research supporting environmental policies and decisions on compliance, pollution prevention, and environmental stewardship.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Enhance Science and Research	\$72,209.6	\$77,181.8	\$70,128.7	(\$7,053.1)
Environmental Program & Management	\$12,336.5	\$11,039.9	\$10,936.2	(\$103.7)
Hazardous Substance Superfund	\$5,160.1	\$8,070.5	\$6,879.5	(\$1,191.0)
Science & Technology	\$53,066.4	\$56,273.7	\$50,468.8	(\$5,804.9)
Buildings and Facilities	\$1,337.1	\$1,422.4	\$1,506.3	\$83.9
Inspector General	\$309.3	\$375.3	\$337.9	(\$37.4)
Total Workyears	293.5	304.4	299.0	-5.3

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Research: Pollution Prevention	\$31,504.1	\$38,998.6	\$34,060.5	(\$4,938.1)
Forensics Support	\$14,845.9	\$18,258.4	\$16,910.8	(\$1,347.6)
Research: Environmental Technology Verification (ETV)	\$2,619.0	\$4,011.8	\$2,996.8	(\$1,015.0)
Congressionally Mandated Projects	\$9,040.0	\$0.0	\$0.0	\$0.0
Administrative Projects	\$14,200.6	\$15,913.0	\$16,160.6	\$247.6
TOTAL	\$72,209.6	\$77,181.8	\$70,128.7	(\$7,053.1)

FY 2005 REQUEST

Results to be Achieved under this Objective

EPA has developed and evaluated tools and technologies to monitor, prevent, control, and cleanup pollution throughout its history. Over the last decade, the Agency has turned its attention more and more to pollution prevention (P2) when addressing many important human health and environmental problems. A preventive approach requires: (1) innovative design and production techniques that minimize or eliminate environmental liabilities; (2) holistic

approaches to utilizing air, water, and land resources; and (3) fundamental changes in the creation of goods and services and their delivery to consumers.

Research will develop and provide tools and technologies to improve individual and organizational decision making and the capability to reduce or eliminate emissions, effluents, and wastes from products and processes, as well as assist small businesses in the development and commercialization of innovative environmental technologies needed by EPA Regions, program offices, and state regulatory and compliance programs. In addition, research will address the findings in the Program Assessment Rating Tool (PART), including focusing more on outcomes from these tools and methodologies. Research to develop and construct the knowledge base necessary to engineer stable environmental management practices at the scale of watersheds will also be conducted. Results will include: providing key information on market mechanisms and incentives to support investigations that explore conditions under which financial and other performance incentives will achieve environmental objectives at a lower cost or more effectively than traditional regulatory approaches; and verifying the performance of environmental technologies developed in the private sector so that technology purchasers and permit writers have the objective information necessary for decision making.

Forensics Support

The Agency's forensic support program provides specialized support for the nation's most complex civil and criminal enforcement cases, and provides technical expertise for non-routine Agency compliance efforts. EPA's National Enforcement Investigations Center (NEIC) is the only accredited forensics environmental center in the nation. NEIC's Accreditation Standard has been customized to cover the civil, criminal, and special program work conducted by the program.

Efforts to stay at the forefront of environmental enforcement will include the refinement of successful multi-media inspection approaches; use of customized laboratory methods to solve unusual enforcement case problems; and further development of a computer forensic expertise for use in seizure and recovery of data and in investigative support related to computers and data fraud. In response to civil and criminal case needs, the NEIC conducts applied research and implementation science, to identify and deploy new capabilities, or to enhance existing methods and techniques involving environmental measurement and forensic situations. As part of this activity, NEIC also evaluates the scientific basis and/or technical enforceability of select EPA regulations. The program also provides technical support for national, regional, state, and tribal initiatives and priorities as well as the Agency's integrated compliance assurance program using a unique process-based approach.

To effectively support the Agency's enforcement and compliance activities, NEIC staff must maintain state-of-the-art research and analytical skills. They also must have access to the tools and technologies needed to perform high-quality work within an increasingly sophisticated regulated community. In FY 2005, the forensic program will continue to function under more stringent International Standards of Operation for environmental data measurements to maintain its accreditation. The program also will continue development of emerging technologies in field and laboratory analytical techniques.

Research: Pollution Prevention

The purpose, goals, and associated research directions for EPA's research program on pollution prevention and new technologies (P2NT) are found in EPA's externally peer-reviewed Pollution Prevention Research Strategy¹⁸. The P2NT Multi-Year Plan¹⁹ (MYP) sets research directions within timeframes that translate the strategic directions of the Pollution Prevention Research Strategy into specific goals and measures with schedules that enhance accountability. (R&D Criteria: Relevance & Performance) The P2NT MYP was last peer-reviewed in December 2001. Revised versions of both the research strategy and multi-year plan documents are currently under development. In FY 2000, in cooperation with EPA's Office of Research and Development, the EPA's Office of Inspector General (OIG) conducted a pilot-scale program evaluation of research within this objective²⁰. The OIG evaluation noted that EPA had made significant progress in its Government Performance and Results Act (GPRA) efforts. The evaluation has been used to further improve EPA's P2NT research program. (Criteria: Quality)

Pollution Prevention Tools: The authorizing legislation for this research comes from the Pollution Prevention Act²¹ of 1990 that reads in part "The EPA should coordinate with appropriate offices to promote source reduction practices in other Federal agencies, and generic research and development on techniques and processes which have broad applicability." One of the long-term goals of the pollution prevention research program is to develop new advanced theories and methods of system analysis, along with decision support tools based on those methods that can be applied both within and beyond the industrial sector. These tools intended to support several EPA program offices and regions, focus on areas such as: (1) chemical process simulation for waste reduction; (2) alternative solvent chemistry and processes; and (3) multi-media life cycle assessments for identifying and evaluating environmental burdens associated with the life cycles of material and services, from cradle to grave.

Several of these tools have been developed and moved toward commercial availability through EPA's Cooperative Research and Development Agreements (CRADAs) with the public and private sectors. Examples of technology transfer of P2NT tools include agreements with: Horizon Technologies to develop, market, and distribute the waste reduction (WAR) algorithm; Chemstations, Inc. to integrate the WAR algorithm into software for modeling different chemical and petrochemical processes; and Exxon Chemical Company to evaluate lubricants with specific new refrigerants for replacement of ozone-depleting substances. In FY 2005, P2NT tools work will include: complete extension of PARIS II (Program for Assisting the Replacement of Industrial Solvents) solvent replacement software to include optional user defined chemical properties; guidance software for the replacement of EDCs in industrial settings; and low cost technology that offers economic benefits for controlling chromium emissions.

¹⁸ U.S. EPA, Office of Research and Development. *Pollution Prevention Research Strategy*. (EPA/600/R-98/123). Washington DC: U.S. Government Printing Office. (1998)

¹⁹ U.S. EPA, Office of Research and Development. *DRAFT Multi-Year Plan: Pollution Prevention and New Technologies for Environmental Protection*. Washington DC: EPA. Accessed January 14, 2004. Available only on the internet at: www.epa.gov/osp

²⁰ Office of Inspector General. *Program Evaluation Report: Goal 8 Objective 8*. (OIG Publication No. 2002-P-000002) Washington D.C.: Office of Inspector General. (2001).

²¹ Pollution Prevention Act of 1990, Title 42, Chapter 133, Section 13

EPA's P2 program was evaluated for the FY 2005 President's Budget using the Administration's Program Assessment Rating Tool (PART). The Agency is committed to addressing the findings in the PART, such as developing long-term outcome-oriented and annual performance measures, and annual efficiency measures.

Clean Chemistry and Engineering: Related work in clean chemistry involves the design of chemicals and alternative chemical syntheses that do not use toxic feedstock, reagents, or solvents, and do not produce toxic by-products or co-products. Clean chemistry research will contribute to the development of safer commercial substances and environmentally friendly chemical syntheses. Research in FY 2005 will continue to explore benign chemical synthesis, reformulation of products, substitution of alternative chemicals, bioengineering, and in-process changes in order to reduce harmful emissions of volatile organic compounds (VOCs), global warming compounds, and persistent bioaccumulative toxics (PBTs).

Sustainable Environmental Systems (SES) research (formerly Environmental Systems Management (ESM)) endeavors to answer the key scientific question: can stable, sustainable, long-term management solutions to complex, watershed-scale environmental problems be devised? The SES program plan was the subject of a consultation by the Environmental Engineering Committee of the EPA Science Advisory Board (SAB) in March 2001. While a formal report was not required or issued for such a consultation, the Committee unanimously supported the overall direction and goal of the research program. The central mission of the SES research program is to construct a six to nine year strategy for managing environmental systems using economics, water resource and land use planning, physical and ecological theory, law, and technological methods to reduce risks to human health and the environment. Collaborative research efforts that will continue during FY 2005 include: cost-effective restoration of select ecosystems throughout the Mid-Atlantic Highlands with the Canaan Valley Institute and Region 3; development of a resistance management framework for preventing the emergence of resistance in target insect pests with EPA's Office of Pesticide Programs; and development of sustainable management strategies for National Parks with the U.S. National Park Service and Region 8.

EPA will also continue to facilitate the adoption of innovative environmental technologies by the public and private sectors through the National Environmental Technology Competition (NETC). EPA will build upon the work started in 2003 and develop competitive solicitations for additional cost effective technologies. With a focus on sustainability and results, this program is expected to show tangible, measurable results for developing cost-effective, innovative solutions to specific environmental problems identified by local decision makers, industry, and interest groups. Working with partners, the NETC will support a "sustainable design challenge" competition that will incorporate sustainability criteria into existing student design competitions.

Small Business Innovation Research Program (SBIR): EPA's Small Business Innovation Research (SBIR) program, created by the Small Business Innovation Development Act of 1982 and funded through a 2.5% set-aside of the Agency's extramural research and development budget, makes awards to small, high-tech firms to help develop and move new environmental tools and technologies from "proof of concept" to commercialization. Proposals are evaluated and judged on a competitive basis by external peer reviewers. Priorities are established by

Agency-wide work groups and undergo independent peer review to ensure SBIR topics complement EPA's overall research program. (Criteria: Quality & Relevance) The SBIR program targets research to prevent pollution, reduce water and air pollution, manage solid and hazardous wastes, and improve environmental monitoring. The program also addresses special topics such as environmental bioterrorism. Recognizing that the expense of carrying out research and development programs is often beyond the means of small businesses, SBIR participants receive both financial and technical assistance in developing and commercializing technologies according to the anticipated market. The technologies developed under SBIR help the regulated community meet environmental requirements in a more cost-effective manner; enable industry to reduce the use of toxic and hazardous materials in production processes, recovering and recycling materials for reuse; and provide new approaches to designing more environmentally-friendly products. Examples of commercialized technologies developed under EPA's SBIR program can be found in the document *Environmental Solutions: Commercializing SBIR Technologies*.²²

In October of 2003, EPA submitted a Report to Congress entitled "One Stop Shop: Coordination of Programs which Foster Development of Environmental Technologies", which described EPA efforts to consolidate and assist outside organizations seeking to develop new technologies. In an effort to improve the Agency's efforts in this regard, EPA launched the Environmental Technology Opportunities Portal (ETOP) web site on December 31, 2003 to assist external customers seeking funding opportunities, information, and links to programs that assist in environmental technology development and commercialization. The web site can be found at: www.epa.gov/etop.

Economics and Decision Sciences: Effective accomplishment of EPA's mission depends on understanding not only the physical and biological effects of environmental changes, but also the behavioral causes and consequences of those changes. The focus of Economics and Decision Sciences (EDS) research at EPA is to develop a better basis for making decisions, by improving the understanding of incentives and motivations that determine individual and corporate environmental behavior. Priority EDS research identified by EPA economists and outside experts includes: ecosystem and human health benefits valuation; market-based incentives for environmental management; corporate environmental behavior, including compliance behavior and the effectiveness of government interventions; decision-making processes that incorporate non-monetized benefits; the benefits of environmental information disclosure; and effective group or community decision-making. (Criteria: Relevance) Valuation of ecosystems and reductions of human health morbidity risk are research priorities for agency rule development because there are extensive gaps in the information we have about biodiversity, habitat, wildlife, and different ecosystems as well as disease endpoints associated with environmental causes. Other high-priority research focuses of the EDS program include better understanding of corporate compliance behavior, which will improve both evaluation of regulation and the allocation of implementation resources for enforcement, compliance, technical assistance, and financial incentives. The Environmental Economics Research Strategy is being peer-reviewed by EPA's Science Advisory Board. A revised and updated version of the EDS multi-year plan is currently under development.

²² U.S. EPA, Office of Research and Development. *Environmental Solutions: Commercializing SBIR Technologies*, (EPA/600/F00/002), Washington DC: EPA. (2000).

EPA's Science To Achieve Results (STAR) program has independently and in partnership with the National Science Foundation (NSF) issued grant solicitations in EDS research. Research proposals received in response to the solicitations are competitively peer-reviewed to ensure selection and funding of only the highest quality research. (Criteria: Quality) Research conducted in FY 2005 will: enhance environmental decision-making by improving the understanding of how people value the environment, focusing on difficult morbidity and ecological valuation issues. Results of this research will enable development of more efficient and equitable regulations and policies. Research on market mechanisms and incentives will support investigations that explore the conditions under which financial and other performance incentives will achieve environmental objectives (e.g., pollution reduction, habitat preservation) at a lower cost or more effectively than traditional regulatory approaches, and will lead to the design and development of efficient market-based incentives to achieve environmental quality. Corporate behavior research will also help Federal and state agencies understand how regulated entities respond to incentives for environmental compliance offered through enforcement, compliance assistance, and information and voluntary mechanisms.

This research focus is particularly important to regulatory programs that must conduct cost-benefit analyses. EPA's peer-reviewed guidelines²³ for preparing economic analyses, which is EPA's internal guidance for cost-benefit and other economic analyses supporting rulemaking and policies, include citations from ten STAR-supported socio-economic research publications from peer-reviewed journals. The results of this work will help guide policy development at EPA for the foreseeable future. This and other examples of EDS research results used by state, local, and Federal government and private enterprises show the success and relevancy of this work.

Research: Environmental Technology Verification (ETV)

Technology purchasers and venture capitalists have historically viewed technology vendor-supplied performance data with skepticism. This has limited the commercial development and use of more innovative environmental technologies. The Environmental Technology Verification (ETV) program aims to ensure scientific relevance, fairness, and consistency in evaluating environmental technologies. ETV is a voluntary, market-based verification program for commercial-ready technologies, with over 800 stakeholders representing diverse interests within the environmental arena. (Criteria: Relevance) The goal of ETV is to verify the performance characteristics of private-sector-developed technologies so that purchasers, users, and permit writers have the information they need to make environmentally sound decisions. Working together, stakeholders, ETV partners, and technology developers develop testing protocols and project-specific test plans. Verification tests are conducted by independent third parties, and appropriate quality assurance procedures are incorporated into all aspects of the process and all reports are subjected to peer review. (Criteria: Quality) Verification statements of three to five pages, based on performance data in the reports, are signed by EPA and the ETV partner, and are posted on the ETV Web Site. EPA and ETV partners announce verification activities in relevant publications, and on the ETV web site at www.epa.gov/etv.

²³ U.S. Environmental Protection Agency. *Guidelines for Preparing Economic Analyses* (EPA/240/R00/003) Washington DC: National Center for Environmental Economics. (2000)

The program is designed so that, as the value of ETV verification becomes more broadly appreciated, technology developers will be required to cover an increasing share of the verification costs. The program cost share for vendors in the program is projected to increase from approximately 17 percent in FY 2001 to approximately 25 percent of program costs by FY 2005.²⁴ EPA's Science Advisory Board (SAB) has twice reviewed the ETV program since its inception in 1995, and during the second review the SAB concluded that: "The scarcity of independent and credible technology verification information is one critical barrier to the use of innovative environmental technologies. Therefore, the verification testing information that is provided by the ETV program fulfills an essential need of the environmental technology marketplace."²⁵ (Criteria: Relevance) While information on technology commercialization or purchasing data are not available at this time, anecdotal evidence (e.g., growing vendor interest and participation since 1995, and vendors' willingness to pay an increasing share of verification costs) indicates the significant value vendors place in the ETV verification program. Both data and other anecdotal evidence are reported in the ETV report to Congress.

FY 2005 CHANGE FROM FY 2004

S&T

- (-\$5,000,000): This reduction results in the elimination of EPA's extramural Pollution Prevention (P2) research supported through the Science to Achieve Results (STAR) Program. Resources will be shifted from the Office of Research and Development to the Office of Prevention, Pesticides and Toxics Substances (OPPTS).
- (-\$1,000,000): This reduction in funding for the Environmental Technology Verification (ETV) program in FY 2005 will result in the closing of one or more of the five verification centers. The ETV centers currently focus on drinking water, water security, air pollution control, advanced monitoring, and greenhouse gas technologies. Technology verifications during FY 2005 will continue, however the scope of technology categories will be narrowed. EPA will continue its program outreach efforts through the ETV website, national conferences, and state permit writer training.
- (-\$143,600, -1.4 FTE): This represents a redirection of work years from clean chemistry and engineering research to Computational Toxicology research. There will be no significant impact to any performance commitments.
- (+\$159,000): Supports higher costs associated with increased mandatory costs such as payroll.
- There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

²⁴ U.S. Environmental Protection Agency. (2002). DRAFT Report to Congress: The Environmental Technology Verification Program. Washington DC: EPA

²⁵ USEPA Science Advisory Board. *Review of EPA's Environmental Technology Verification Program* (EPA Review Draft report) Washington DC: Science Advisory Board, Environmental Engineering Committee, Technology Evaluation Subcommittee. (2000)

Superfund

- (-\$383,100, -3.0 FTE): Technical adjustment from forensics support to reflect actual work supporting homeland security under Goal 5, Objective 1. The adjustment moves resources already supporting homeland security efforts at National Enforcement Investigations Center (NEIC).
- (-\$1,123,500): Technical adjustment from forensics support to support various programs under goals 3 and 5 of the Agency's Strategic Plan.

ANNUAL PERFORMANCE GOALS AND MEASURES

Research

Pollution Prevention Research

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

New Technologies

- In 2005 Complete thirty verifications and four testing protocols for a program cumulative total of 280 verifications and 88 testing protocols for new environmental technologies so that, by 2009, appropriate and credible performance information about new, commercial-ready environmental technology is available that influences users to purchase effective environmental technology in the US and abroad.
- In 2004 Verify 35 air, water, greenhouse gas, and monitoring technologies so that States, technology purchasers, and the public will have highly credible data and performance analyses on which to make technology selection decisions.
- In 2003 Developed 10 testing protocols and completed 40 technology verifications for a cumulative Environmental Technology Verification (ETV) program total of 230 to aid industry, states, and consumers in choosing effective technologies to protect the public and environment from high risk pollutants.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Verify and provide information to States, technology purchasers, and the public on 40 air, water, pollution prevention and monitoring technologies for an ETV programmatic total of 230 verifications.	40			verifications
Complete an additional 10 stakeholder approved and peer-reviewed test protocols in all environmental technology categories under ETV, and provide them to international testing organizations.	10			protocols
Through the ETV program, verify the performance of 35 commercial-ready environmental technologies.		35		verifications
Verifications completed			15	verifications
Testing protocols completed			2	protocols

Baseline: Actual environmental risk reduction is directly related to performance and effectiveness of environmental technologies purchased and used. Private sector technology developers produce almost all the new technologies purchased in the U.S. and around the world. Purchasers and permittees of environmental technologies need an independent, objective, high quality source of performance information in order to make more informed decisions; and vendors with innovative, improved, faster and cheaper environmental technologies need a reliable source of independent evaluation to be able to penetrate the environmental technology market. Through FY 2004, EPA's Environmental Technology Verification (ETV) Program will have verified approximately a programmatic total of 265 technologies, as well as making data on their performance available for public use, and will have developed 86 protocols. In FY 2005, the ETV Program will complete 15 additional verifications and two testing protocols for a cumulative total of 280 verifications and 88 testing protocols since ETV begin in 1995. Beginning in FY 2005, regular evaluations by independent and external panels will provide reviews of EPA research programs' relevance, quality, and successful performance to date, in accordance with OMB's Investment Criteria for Research and Development. These

evaluations will include an examination of a program's design to determine the appropriateness of a program's short-, intermediate-, and long-term goals and its strategy for attaining these. Reviewers will also qualitatively determine whether EPA has been successful in meeting its annual and long-term commitments for research. Recommendations and results from these reviews will improve the design and management of EPA research programs and help to measure their progress under the Government Performance and Results Act (GPRA).

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Performance Measure: Verifications completed

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2005 Performance Measure: Testing protocols completed

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

EFFICIENCY/MEASURES/MEASUREMENT DEVELOPMENT PLANS

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

COORDINATION WITH OTHER AGENCIES

The forensic program works with the state, local and tribal agencies, providing technical assistance, and on-site investigation and inspection activities for the civil program. The program also coordinates with the Department of Justice and other federal, state and local law enforcement organizations in support of criminal investigations.

Under the Persistent Bioaccumulative Toxics (PBT) program, EPA has been working with the U.S. Geological Survey (USGS), the National Oceanic and Atmospheric Administration (NOAA), and the Centers for Disease Control and Prevention (CDC) to develop a national routine PBT monitoring strategy. Through the integration of existing monitoring programs, this new strategy will ultimately meet the mutual objectives of EPA and other Federal agencies.

EPA also partners under a joint solicitation with the Department of Agriculture, Department of Commerce, Department of Defense, Department of Energy, National Aeronautics and Space Administration, National Institute of General Medical Sciences (National Institutes of Health), and the National Science Foundation, on metabolic engineering that supports a portion of the Agency's pollution prevention research program.

EPA has contributed projects to the Department of Defense's (DOD's) Strategic Environmental Research and Development Program (SERDP), with particular emphasis on the pollution prevention pillar and the use of lifecycle thinking in addressing production and manufacture of weapons and military hardware. Preliminary contacts have been made with the Department of Agriculture (USDA) regarding lifecycle analysis and a preventive approach for the development and advancement of biologically- and genetically-altered products. Additionally, EPA and DOD's U.S. Army Corps of Engineers will continue addressing the costs and benefits associated with the implementation of new engineering projects and technologies in order to understand and respond to the economic impacts of environmental innovation.

EPA co-funds efforts to verify the performance of technologies under a memorandum of agreement with US Coast Guard (ballast water treatment technology) and the State of Massachusetts (mercury continuous emission monitors). EPA also coordinates with other agencies to fund verifications. These include the National Oceanic and Atmospheric Administration (multiparameter water probes); US Department of Energy (mercury continuous emission monitors); US Department of Defense (explosives monitors, PCB detection, dust suppressants); US Department of Agriculture (ambient ammonia monitors); States of Alaska and Pennsylvania (arsenic removal from drinking water); States/counties in Georgia, Kentucky, Michigan (storm water treatment technology); and States of New York and Colorado (waste to energy technology).

STATUTORY AUTHORITIES

Clean Air Act

Clean Air Act Amendments of 1990

Clean Water Act

Comprehensive Environmental Response, Compensation, and Liability Act sections 106, 107, 109, and 122 (42 U.S.C. 9606, 9607, 9609, 9622)

Emergency Planning and Community Right-to-Know Act sections 325 and 326 (42 U.S.C. 11045, 11046)

Federal Insecticide, Fungicide, and Rodenticide Act

Federal Technology Transfer Act

Ocean Dumping Act sections 101, 104B, 105, and 107 (33 U.S.C. 1411, 1414B, 1415, 1417)

Pollution Prevention Act

Pollution Prosecution Act of 1990 (42 U.S.C. section 4321 note)

Residential Lead-Based Paint Hazard Reduction Act of 1992, section 1018 under TSCA section 11 (42 U.S.C. 4852d, 2610)

Resource Conservation and Recovery Act (RCRA) of 1976, as amended; 42 U.S.C. 6901-6992K)

Safe Drinking Water Act

Small Business Innovation and Development Act

Superfund Amendments Reauthorization Act

Toxic Substances Control Act

Environmental Protection Agency

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