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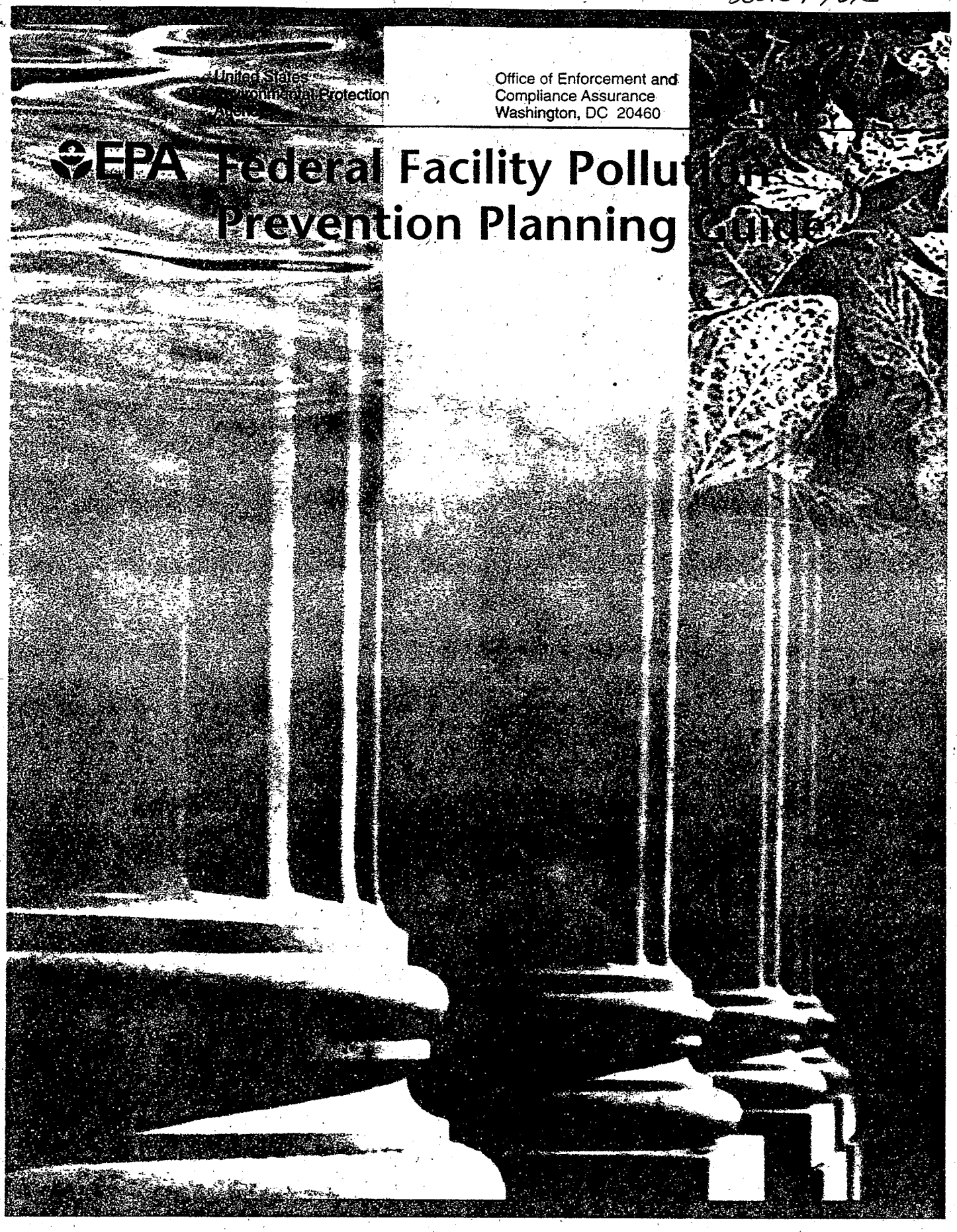
Environmental Protection
Agency

Office of Enforcement and
Compliance Assurance
Washington, DC 20460

EPA Federal Facility Pollution Prevention Planning Guide



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SECTION I: INTRODUCTION

"...Federal facilities will set the example for the rest of the country and become the leader in applying pollution prevention to daily operations, purchasing decisions and policies... By stopping pollution at its source, the Federal government can make a significant contribution to protecting the public health and our environment." President Clinton

BACKGROUND

The Federal government is the Nation's largest consumer of raw materials, power, water, and products. The government consumes these resources in its production, maintenance, and operational activities. In many cases, these activities result in the generation of harmful liquid, solid, and gaseous wastes. Such wastes may have adverse impacts on people and the environment. In addition, the management and disposal of these wastes (as well as the cleanup of improperly managed wastes) are costly.

The cost for material use, the management of solid and hazardous wastes, the control of discharges to the air and water, and the cleanup of improperly managed materials is rising. Rising costs in the Federal community translates into costs to every American. In addition, the requirements for the management of hazardous materials and the release of chemicals to the environment are becoming more comprehensive. The increasing costs and expanding requirements create incentives for Federal facilities to reduce the amounts of hazardous materials used and wastes generated.

Federal agencies can reduce their environmental impacts and the costs associated with managing these impacts by incorporating pollution prevention into their facilities activities. The Federal government is in a unique position to demonstrate leadership by protecting the environment using pollution prevention. Through its purchasing practices, for example, the government can demonstrate the use of less toxic and environmentally protective products and materials. The government can also create the demand for goods and products with recycled content by establishing minimum recycled content standards in its procurement contracts. By embracing pollution prevention as the preferred environmental management technique, the Federal government can promote pollution prevention in all its forms, including source reduction, recycling, and affirmative procurement. The Federal government can fundamentally change the way in which the government and, in the long-run, the Nation conduct business.

PURPOSE OF THIS DOCUMENT

This document is designed to help Federal facility environmental coordinators comply with the pollution prevention planning requirements of Section 3-302(d) of Executive Order 12856 (see Annex A), which states that "*the head of each Federal agency shall ensure that each of its covered facilities develops a written pollution prevention plan no later than the end of 1995, which sets forth the facility's contribution to the goal established in section 3-302(a) of this order. Federal agencies shall conduct assessments of their facilities as necessary to ensure development of such plans and of the facilities' pollution prevention programs.*" Specifically, the manual will support facilities in developing written pollution prevention plans that describe how facilities will contribute to meeting the Agency 50 percent reduction goals in

the release of or the transport for disposal of toxic chemicals as identified under Section 3-302(a) of Executive Order 12856. This document also provides guidance for Federal facility environmental coordinators to meet pollution prevention requirements and goals established in several other Executive Orders, Federal laws, State laws, and Federal agency policies. More importantly, this manual is intended to describe how you, the environmental coordinator, can strengthen the environmental program at your facility using pollution prevention approaches.

This guide is intended to introduce you to multimedia pollution prevention planning techniques. It is intended to be a quick reference guide that can assist in first developing a pollution prevention facility plan (as required under Executive Order 12856) and, second, initiating a comprehensive environmental management program. This document is not a comprehensive technical guide to pollution prevention facility planning. For additional planning support, EPA encourages you to refer to pollution prevention planning guidance documents that your agency or EPA has developed (see Section III).

The remainder of Section I provides an overview of pollution prevention and related Executive Orders, Federal laws, State laws, and Federal agency policies that require pollution prevention activities. Section II outlines steps for developing a facility-wide, multimedia pollution prevention facility plan and building the plan into a pollution prevention program. Section III provides a list of pollution prevention guidance documents, technical assistance programs, and contacts that might provide further assistance in developing and implementing your facility's pollution prevention plan.

POLLUTION PREVENTION DEFINED

Over the past several years, a new environmental protection concept has evolved that focuses on eliminating or modifying activities that result in adverse environmental impacts. This concept, known as pollution prevention, has gained support throughout the Nation, especially in Federal agencies, as a means to meet or exceed environmental goals and standards.

The Pollution Prevention Act of 1990 and Executive Order 12856 define pollution prevention as "*...any practice which reduces the amount of a hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal; and any practice which reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants.*"

Pollution prevention refers to the use of materials, processes, or practices that eliminates or reduces the quantity and toxicity of wastes at the source of generation. It includes practices that eliminate the discharge of hazardous or toxic chemicals to the environment and that protect natural resources through conservation and improved efficiency. Pollution prevention also reduces the use of hazardous materials, energy, and water.

Pollution prevention is a novel approach to waste management not only because it seeks to avoid the generation of waste or environmental releases, but also because it stresses the management of all environmental media (i.e., air, land, and water) together. Within this framework, pollution prevention aims to eliminate or reduce waste released to land, air, and water without simply transferring or distributing pollutants among these media.

Pollution prevention represents the first step in a hierarchy of options for managing waste. This environmental protection hierarchy lists, in descending order of preference, source reduction, recycling, treatment, and disposal as the recommended options for waste management.

Source Reduction Activities

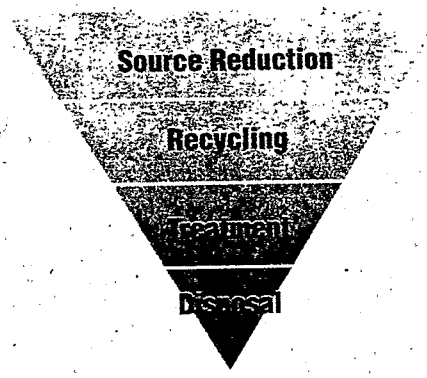
Process Efficiency Improvements
Perform the same task with less energy or materials by designing new systems or modifying existing ones.

Material Substitution
Replace hazardous chemicals with less toxic alternatives.

Inventory Control
Prevent product expiration and damage by improving inventory management.

Preventive Maintenance Routinely check for and repair leaks and spills and maintain equipment in good working order to extend useful life.

Improved Housekeeping
Keep the facility neat and organized to reduce chances of spills and releases of chemicals.



Environmental Protection Hierarchy

Source reduction is assigned the highest priority because it eliminates or reduces wastes at the source of generation. Recycling is the next preferable approach because it involves the reuse or regeneration of materials and wastes into usable products. Treatment and disposal are considered last-resort measures.

Key benefits of pollution prevention may include reductions in reporting requirements, compliance costs, and environmental liability. Pollution prevention may also reduce expenditures for raw materials, waste disposal, transportation, handling and storage, training, management overhead, and emergency response. This approach will result in a cleaner environment, more efficient operations, and safer working environments.

EXECUTIVE ORDERS

To promote pollution prevention as the preferred environmental management technique throughout the Federal government, the President has issued numerous Executive Orders. These orders instruct Federal agencies to integrate waste reduction and recycling programs into their environmental management initiatives. To do this, the President has identified specific source reduction and recycling goals that all Federal agencies and facilities should meet. By requesting Federal agencies to respond to the goals of the Executive Orders, the Federal government demonstrates its commitment to the environment and ultimately to each citizen of the United States.

These Executive Orders (discussed on the following page) translate into various requirements that you should consider when developing and implementing your facility pollution prevention plan. The general requirements for these Executive Orders are summarized in the box. You should check with your headquarters to obtain information concerning goals, requirements, assistance programs, and research efforts specific to your agency.

Facility Requirements Under Pollution Prevention Executive Orders

Executive Order 12856—Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements (August 3, 1993)

- Develop a facility-wide pollution prevention plan by December 31, 1995, to reduce releases and transport of toxic chemicals by 50 percent.
- Ensure that the plan supports agency-wide reduction strategies and goals.
- Establish agency plans and goals to eliminate or reduce unnecessary acquisition of products containing hazardous substances or toxic chemicals.
- Make strategies, plans, and Toxic Release Inventory (TRI) reports available to the communities surrounding your facility.
- Comply with EPCRA emergency planning and response requirements.
- Report releases and transfers of toxic chemicals to the TRI.

Executive Order 12873—Federal Acquisition, Recycling, and Waste Prevention (October 20, 1993)

- Establish goals for solid waste prevention and recycling to be achieved by 1995.
- Procure products that are environmentally preferable or that are made with recovered materials, and set annual goals to maximize the number of recycled products purchased.

Executive Order 12902—Energy Efficiency and Water Conservation (March 8, 1994)

- Reduce the overall energy use in Federal buildings by 30 percent by 2005.
- Increase overall energy efficiency in industrial facilities by 20 percent by 2005.
- Significantly increase the use of solar and other renewable energy sources.
- Minimize the use of petroleum products at Federal facilities by switching to less polluting alternative energy sources.

Executive Order 12843—Procurement Requirements and Policies for Federal Agencies for Ozone-Depleting Substances (April 21, 1993)

- Maximize use of alternatives to ozone-depleting substances.
- Modify procurement specifications and practices to substitute non-ozone-depleting substances.

Executive Order 12844—Federal Use of Alternative Fueled Vehicles (April 21, 1993)

- Procure and use alternative fueled vehicles, where possible, to reduce toxic and hazardous air pollutants.
- Purchase 50 percent more alternative fueled vehicles from 1993 through 1995 than currently specified in the Energy Policy Act of 1992. While your facility may not be scheduled to purchase such vehicles, you should investigate and purchase such vehicles if possible.

Executive Order 12845—Purchasing Energy Efficient Computer Equipment (April 21, 1993)

- Meet EPA "Energy Star" energy efficiency requirements in the purchase of computer equipment.
- Equip existing computer equipment with energy efficient low-power stand-by feature.
- Educate staff about the environmental and economic benefits of energy efficiency.

Executive Order 12898—Federal Actions to Address Environmental Justice

- Encourages Federal facilities to document potential environmental impacts in environmental justice areas, and target such impacts for reduction through pollution prevention.

Executive Order 12856—Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements

One of the most important milestones in Federal pollution prevention activities was the signing of Executive Order 12856 (Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements) in August 1993. This order is expected to serve as a central directive to Federal agencies and facilities on pollution prevention during the coming years. Executive Order 12856 calls on Federal agencies to develop a 50 percent reduction goal by 1995 for their releases of toxic chemicals, or pollutants, with the baseline being no later than 1994.

To accomplish this, Executive Order 12856 requires Federal facilities subject to the order to develop facility-specific pollution prevention program plans. These plans should set goals, identify activities, and establish a timeline to reduce and eliminate the acquisition, manufacture, processing, or use of toxic chemicals and extremely hazardous substances at the facility. The plans should consider all activities and processes that rely on toxic and extremely hazardous materials. In addition, the plans should include any other activities that may adversely impact the environment. The plans should consider all environmental media (i.e., land, air, and water) and identify specific activities that will result in reductions of impacts to these media.

Executive Order 12873—Acquisition, Recycling, and Waste Prevention

Executive Order 12873 directs Federal agencies and facilities to implement acquisition programs aimed at encouraging new technologies and building markets for environmentally preferable and recycled products. Toward this end, all agencies are directed to review and revise their specifications, product descriptions, and standards to enable procurement and acquisition personnel to meet the goals set forth in the Executive Order. Agencies also must set goals for waste prevention and the acquisition of recycled products and report on their progress in meeting the goals.

Executive Order 12902—Energy Efficiency and Water Conservation

Under Executive Order 12902, Federal agencies and facilities are directed to increase efforts to conserve energy and water by improving efficiency. Each agency must undertake a prioritization survey of all its facilities leading to a 10-year plan to conduct comprehensive energy and water audits. In response to this plan, each Federal facility will be expected to contribute to its agency-wide conservation and reduction goals.

Executive Orders 12843, 12844, 12845—Ozone-Depleters, Alternative Fueled Vehicles, Energy Star Computers

Three other executive orders, signed on Earth Day 1993, commit the Federal government to accelerated action on several fronts—phasing out ozone-depleting substances, purchasing alternative fueled vehicles, and buying energy-efficient computers.

Executive Order 12843—Procurement Requirements and Policies for Federal Agencies for Ozone-Depleting Substances

Executive Order 12843 directs Federal agencies to change their procurement policies to reduce the use of ozone-depleting substances earlier than the 1995 phase-out deadline called for in the Montreal Protocol. Federal agencies are directed to modify specifications and contracts that require the use of ozone-depleting substances and to substitute non-ozone-depleting substances to the extent economically practicable. Through affirmative acquisition practices, the Federal government will provide leadership in the phase-out of these substances on a worldwide basis, while contributing positively to the economic competitiveness on the world market of U.S. manufacturers of innovative safe alternatives.

Executive Order 12844—Federal Use of Alternative Fueled Vehicles

Executive Order 12844 places the Federal government in a leadership role in the use of alternative fueled vehicles, calling on each agency to adopt aggressive plans to exceed the purchase requirements of such vehicles established by the Energy Policy Act of 1992. The use of alternative fueled motor vehicles can reduce air pollution, stimulate domestic economic activity, reduce vehicle maintenance costs, and provide market incentives for the development of such vehicles and the fueling infrastructure needed to support large numbers of privately owned alternative fueled vehicles.

Executive Order 12845—Purchasing Energy Efficient Computer Equipment

The U.S. government became a participant in the Energy Star Computer program by agreeing to buy energy-efficient computers, monitors, and printers to the maximum extent possible. To the extent possible, Federal agencies must now purchase only those computer products that qualify for the Energy Star logo, as long as they meet other performance requirements and are available in a competitive bid.

Executive Order 12898—Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Section 3-302(c) of Executive Order 12898 requires that "each Federal agency, whenever practicable and appropriate, shall collect, maintain and analyze information on the race, national origin, income level and other readily accessible and appropriate information concerning areas surrounding Federal facilities that are (1) subject to the reporting requirements under the Emergency Planning and Community Right-to-Know Act, 42 U.S.C. section 11001-11050 as mandated in Executive Order 12856; and (2) expected to have a substantial environmental, human health, or economic effect on surrounding popula-

tions. Such information shall be made available to the public, unless prohibited by law." Facilities are encouraged to consider these requirements in developing facility baselines and pollution prevention plans. Facilities also are encouraged to develop and implement pollution prevention alternatives that will reduce the environmental impacts to environmental justice areas where socioeconomic factors are of concern.

FEDERAL LAWS

For several years, Congress has promoted pollution prevention by legislating Federal laws that either directly or indirectly require the implementation of pollution prevention. For example, the Pollution Prevention Act of 1990 established pollution prevention as the preferred environmental management approach for all waste generators, including Federal facilities. The Federal Facilities Compliance Act of 1992 indirectly encourages pollution prevention by waiving sovereign immunity for Federal facilities concerning hazardous waste compliance requirements.

The Pollution Prevention Act and the Federal Facilities Compliance Act strongly demonstrate the Federal government's desire to protect the environment through pollution prevention approaches. Each of these acts is discussed in greater detail in the following paragraphs.

Pollution Prevention Act of 1990

The Pollution Prevention Act of 1990 clearly establishes pollution prevention as the Nation's preferred approach to environmental protection and waste management. Although the Act does not mandate specific pollution prevention activities, it does establish pollution prevention as the national environmental protection policy. The Act states, "*The Congress hereby declares it to be the national policy of the United States that pollution should be prevented or reduced at the source whenever feasible; pollution that cannot be prevented should be recycled in an environmentally safe manner whenever feasible; pollution that cannot be prevented or recycled should be treated in an environmentally safe manner whenever feasible; and disposal or other release into the environment should be employed only as a last resort and should be conducted in an environmentally safe manner.*"

Federal Facilities Compliance Act of 1992

The Federal Facilities Compliance Act requires all Federal facilities to comply with all applicable hazardous waste laws and corresponding Federal, State, and local regulations. The Act makes Federal facilities fully responsible for violations of the Resource Conservation and Recovery Act (RCRA) resulting from their management of hazardous wastes. By making Federal facilities responsible for RCRA compliance violations, the Act provides Federal facilities with incentives to minimize hazardous wastes regulated under RCRA.

Other Federal Laws

Other Federal environmental laws promote pollution prevention by creating requirements that must be met by all waste generators. Waste generators can reduce the burden of these regulations by implementing pollution prevention alternatives. Such environmental laws include the Clean Air Act, Clean Water Act, RCRA, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and Emergency Planning and Community Right-to-Know Act (EPCRA).

STATE LAWS

States have promoted pollution prevention as a means to improve environmental management approaches since the early 1980s. In general, State pollution prevention programs maintain technical assistance functions that disseminate pollution prevention information to support industrial facilities in their efforts to reduce wastes and eliminate environmental

Pollution Prevention Incentives in Federal Legislation

Clean Air Act

The 1990 Amendments added pollution prevention as a primary goal of the Clean Air Act.

Clean Water Act

The overall goal of the Clean Water Act is to reduce and eventually eliminate the discharge of pollutants into U.S. waterways.

Resource Conservation and Recovery Act

The Hazardous and Solid Waste Amendments (HSWA) of RCRA established as national policy the reduction or elimination of hazardous waste generation wherever possible.

Comprehensive Environmental Response, Compensation, and Liability Act

CERCLA indirectly promotes pollution prevention through its pervasive liability scheme. Any mismanagement of hazardous materials can result in liability and can lead to enforcement action.

Emergency Planning and Community Right-to-Know Act

Waste minimization is an explicit goal of EPCRA; however, it does not directly mandate pollution prevention. Instead, EPCRA promotes pollution prevention through the reporting and public right-to-know requirements.

impacts. These technical assistance programs may also support your Federal facility.

In addition, many States have modified their regulatory programs, including permitting, compliance inspections, and enforcement actions, to incorporate and promote pollution prevention approaches as a means to meet environmental quality goals. Moreover, several States have enacted legislation or regulations promoting or mandating pollution prevention facility planning. As such, it is critical that each Federal facility meet not only the pollution prevention requirements as directed under Section 5-505 of Executive Order 12856 but also the pollution prevention requirements of the State environmental program. In cases where the State and Federal requirements overlap, the facility should meet the more stringent of the two requirements.

The following table lists the States that have facility planning or other prevention requirements. Since new projects are emerging with increasing frequency, it is critical to periodically check with your State regulators on developing requirements and programs. A list of contacts for State pollution prevention programs is provided in Section III.

FEDERAL AGENCY POLLUTION PREVENTION POLICIES

Pollution prevention program planning will be the key to successfully addressing the requirements and goals established in the Executive Orders and Federal and State regulations. To reinforce these goals, Executive Order 12856 requires each Federal agency to develop a pollution prevention strategy. EPA prepared the document entitled, *Pollution Prevention in the Federal Government: Guide for Developing Pollution Prevention Strategies for Executive Order 12856 and Beyond*, to assist Federal agencies in developing pollution prevention strategies in accordance with Section 3-301 of the Executive Order. Information on obtaining this document is given in Section III. Each agency's strategy will describe how it will meet the 50 percent toxic release reduction goal by December 31, 1999, as outlined in Section 3-302 of Executive Order 12856. Your facility-specific prevention plan, as required under the Executive Order, will support your agency in meeting its source reduction goals as described in its pollution prevention strategy.

In response to all of these requirements and directives, several Federal agencies have demonstrated their commitment to pollution prevention by developing pollution prevention policies. These policies direct facilities to develop facility pollution prevention plans. As a Federal facility environmental coordinator, it is your responsibility to ensure that these policies are implemented. For further information on your agency's pollution prevention policy, contact your Federal facility pollution prevention contact. A list of contacts is provided in Section III.

Summary of State Pollution Prevention Legislation

State	Legislation		State	Legislation	
	Facility Planning Prevention	Other Pollution Requirements		Facility Planning Prevention	Other Pollution Requirements
Alaska		x			
Arizona	x		Mississippi	x	
California	x	x	Missouri		x
Colorado			New Jersey	x	
Connecticut	x	x	New York	x	x
Delaware	x	x	North Carolina	x	
Florida	x	x	Ohio	x	x
Georgia	x		Oregon	x	
Illinois	x	x	Pennsylvania	x	
Indiana	x	x	Rhode Island		x
Iowa	x		South Carolina		x
Kentucky		x	Tennessee	x	
Louisiana	x		Texas	x	
Maine	x	x	Vermont	x	
Massachusetts	x	x	Virginia		x
Michigan		x	Washington	x	x
Minnesota	x	x	Wisconsin		x

SECTION II: FACILITY POLLUTION PREVENTION PLAN DEVELOPMENT STEPS

INTRODUCTION

This discussion translates all of the requirements (summarized in Section I) into specific activities that will help you define, develop, and implement a pollution prevention program at your Federal facility. Specifically, this section describes the components of a pollution prevention facility plan. It provides a stepwise process for the development and implementation of a facility-wide, multimedia pollution prevention plan that will help you and your facility meet all of the pollution prevention requirements and goals.

Once the plan is completed, you will have a strategy and a list of action items for integrating pollution prevention into your facility's environmental protection program. A facility pollution prevention plan can be prepared in many different ways. The exact approach you take will depend upon the types of organizational structures, management styles, and missions within your facility. The remainder of this section defines EPA-recommended steps for developing your facility-wide pollution prevention plan and discusses public participation, measurements of progress, and plan implementation.

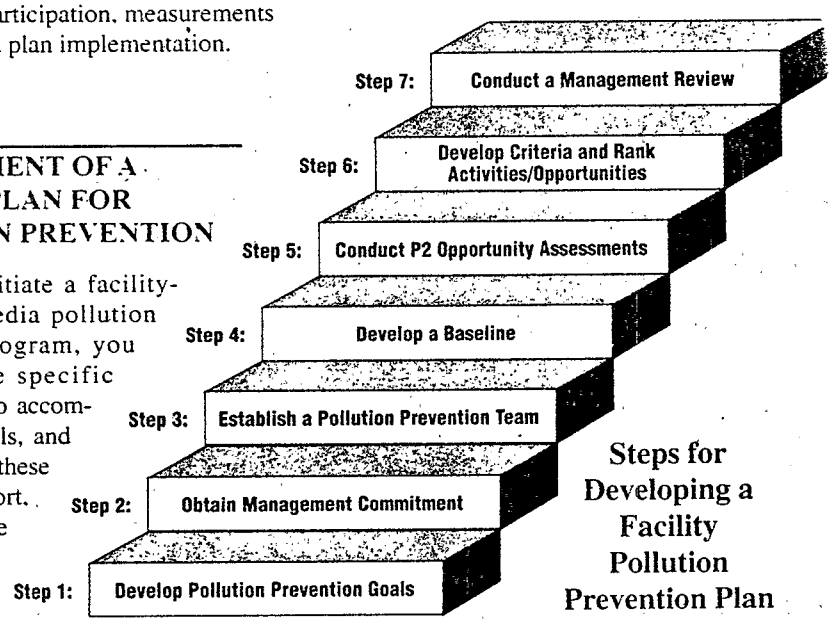
DEVELOPMENT OF A FACILITY PLAN FOR POLLUTION PREVENTION

Before you initiate a facility-wide, multimedia pollution prevention program, you should define specific goals, actions to accomplish those goals, and a schedule for these actions. In short, you should have a plan. The exact content of the plan and the environmental issues targeted will depend upon your goals and facility's requirements from your headquarters, EPA region, and State environmental regulators. The greatest challenge to you will come in applying the pollution prevention planning approach to develop a plan that meets the needs of your facility and its specific environmental concerns.

This sub-section discusses the seven steps commonly used to develop a facility pollution prevention plan.

Step 1: Develop Goals

The first step in preparing a facility pollution prevention plan is to develop goals. These goals will identify specific reductions and accomplishments that you envision for the facility's pollution prevention program. Section 3-302(a) of Executive Order 12856 requires each Federal agency to develop "*voluntary goals to reduce the agency's total releases of toxic chemicals for treatment and disposal from facilities covered by this order by 50 percent by December 31, 1999.*" Specifically, your facility pollu-



Steps for Developing a Facility Pollution Prevention Plan

tion prevention plan should define how your facility will contribute to your agency's overall pollution prevention reduction goals (see Section 3-302(d) of Executive Order 12856). Some recommended goals might include the following:

- Reductions in the release and use of toxic and extremely hazardous chemicals at your facility (see Executive Order 12856)
- Reductions in the release and use of other pollutants as identified by your agency's pollution prevention strategy
- Reductions in the unnecessary purchase of toxic and hazardous chemicals (see Executive Order 12873)
- Affirmative procurement practices to ensure the purchase of recycled content materials as directed by EPA (see Executive Order 12873)
- Increases in the volumes of materials captured for recycle
- Reductions in the generation of solid wastes
- Reductions in the consumption of materials, water, and power (see Executive Order 12902)
- Reductions in the use and release of toxic chemicals to environmental justice areas where socioeconomic factors are of concern (see Executive Order 12898).

EPA is currently developing guidance on specific pollution prevention approaches that can be used by agencies and facilities in meeting their 50 percent reduction goals.

By setting goals, you will define the nature of the pollution prevention program and direct its initial efforts toward a quantifiable objective. As you develop the facility pollution prevention plan, you may identify new goals or modify original goals. Be sure to document and publicize any major changes to the program goals.

Step 2: Obtain Management Commitment

The next step is obtaining a commitment from upper management. When management is committed to pollution prevention, the development (and implementation) of the program plan proceeds more smoothly. As with any new project, obtaining management support for pollution prevention involves providing managers with the information they need to make decisions. Managers should understand the goals of pollution prevention, the reasons for developing a pollution prevention plan (e.g., the Executive Orders), and the elements of a pollution prevention program. Most important, the facility managers should understand all of the potential benefits that they will reap in developing and implementing a pollution prevention program.

To obtain upper management commitment, you have to sell the concept. To do that, you have to convince managers that a pollution prevention facility plan will help the facility mission by:

- Improving compliance with all applicable environmental requirements, regulations, and Executive Orders
- Reducing operating costs with respect to waste management and the purchase of raw materials
- Reducing the facility's chances of creating environmental contamination that may result in environmental liabilities and large-scale cleanup requirements
- Improving the productivity of staff by providing a cleaner, healthier working environment through reduced use of toxic materials
- Increasing efficiency through innovative pollution prevention techniques identified and implemented under the pollution prevention program.

Once upper management agrees to developing a facility plan, the facility director should sign a formal policy statement that expresses approval for the plan. In addition to the policy statement, upper management must provide the authority for the environmental staff to develop and implement the pollution prevention plan.

Step 3: Build a Team

A pollution prevention program cannot succeed without the support of all facility staff. Therefore, the facility pollution prevention plan should be developed by facility staff who are led through the process by the environmental personnel responsible for the plan. EPA suggests a team approach in which various staff support the planning and implementation steps. Realize that various facility staff should participate in the planning process because they will ultimately be responsible for implementing pollution prevention options.

The same staff will not necessarily support the planning process throughout the effort. You will need assistance from staff who understand and operate different processes or missions at the facility. You will draw on different facility personnel when characterizing their operations and defining pollution prevention

Obtaining the Right Kind of Commitment

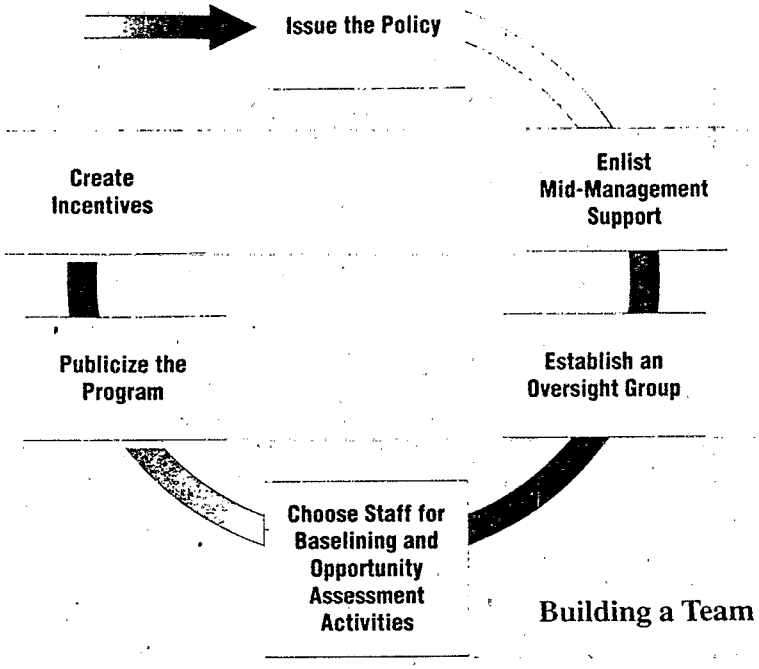
When briefing management on the pollution prevention planning process, be sure you obtain the following:

- Authority to develop, implement, and facilitate a facility-wide pollution prevention program.
- A policy statement that confirms this authority and emphasizes management's support for this effort.
- Resources to initiate the program. Be careful not to scare away management with expensive or manpower intensive programs. Once you have demonstrated the cost-effectiveness of pollution prevention, funding for projects will be easier to obtain.

A Successful Model

Under the Tidewater Interagency Pollution Prevention Program (TIPPP) plan, Ft. Eustis Army Transportation Center, Langley Air Force Base, NASA Langley Research Center, and Naval Base Norfolk in the Tidewater, Virginia, area have joined together to address pollution prevention issues at the community level. The four facilities worked with EPA and the Commonwealth of Virginia to develop a four-facility plan for cooperative pollution prevention projects and information sharing. The plan described base-specific and TIPPP-wide goals, as well as efforts and approaches for meeting pollution prevention targets identified under the 1990 Chesapeake Bay Agreement. In addition, each facility has developed its own pollution prevention plan that is integrated with the TIPPP plan and focuses on facility-specific issues.

The TIPPP provides a model for planning across a variety of facilities and issues. In the long-term, the planning conducted for the TIPPP allowed the program to achieve desired goals and to demonstrate the utility of communication among facilities within a geographic region.



Building a Team

options that apply to them. You should also enlist staff who support the entire facility, including maintenance engineers, supply staff, and health/safety personnel. These staff will be invaluable in defining facility-wide characteristics and pollution prevention opportunities.

To ensure that the right staff are available when needed, EPA suggests a team building approach that relies on education and flexibility so that facility staff can participate when needed. The following types of activities may support you in building a personnel pool that you can rely on throughout the development and implementation stages.

Issue the Policy Statement

All staff should have access to the pollution prevention policy. At first, this document will serve as the license for the pollution prevention planning and implementation process. Everyone should know that it exists and what is says.

Enlist Middle Management Support

To ensure program success, it is critical that middle managers understand and support the initiative. You will have to convince them that the pollution prevention program will help make their lives simpler with respect to the environment. You will be relying on their good will and access to information so it is critical to enlist their support. Provide them with the policy statement, a description of pollution prevention, the benefits of pollution prevention, and how they can support the effort.

Establish an Oversight Group

The oversight group is a team of individuals who will help to develop and implement the program. This team will be responsible for:

- Developing the facility pollution prevention program plan
- Encouraging staff participation in the planning and implementation of the program
- Monitoring the program as it develops
- Acting as advocates for the pollution prevention program
- Publicizing the program.

Team members should be chosen from all areas of the facility and should include both supervisors and shop-level employees. Although the team may consist of several members, the environmen-

Pollution Prevention Team Members

- Environmental coordinator
- Facility director
- Senior management
- Public affairs department
- Shop personnel

Developing A Team Approach

The U.S. Coast Guard at Governor's Island has several tenant facilities that were managing environmental issues independently. Each tenant command, therefore, was managing its own wastes. In developing pollution prevention alternatives, the different tenant organizations worked together to develop and exchange innovative pollution prevention options and approaches. This team approach resulted in information sharing and cooperation not only on pollution prevention approaches but also on future waste management practices.

tal coordinator may be responsible for leading the oversight group.

Select Staff for Baselining and Opportunity Assessment Activities

As you begin to develop a baseline and conduct opportunity assessments, you should identify and enlist the help of staff who work in areas where wastes are generated. These staff will support you in defining the operations for the facility baseline and in developing pollution prevention alternatives. In using this approach, your baselining and opportunity assessment team will change as you move through the facility. Each operation will have staff who are familiar with your activities and may be willing to help once implementation occurs.

Publicize the Program

You must have cooperation from facility staff. If they will not participate, you may never accomplish anything other than the initial planning effort. Publicizing the program can be difficult depending on the size of the facility and staff attitudes concerning the environment. To publicize the program, the oversight group can hold public forums to discuss the program. You might also distribute brochures or factsheets to all staff through the mail or electronic bulletins. Starting a new environmental or pollution prevention newsletter might help as well. Again, the goal of the publicity program is to clearly demonstrate management commitment to the pollution prevention program.

Create Employee Incentives

Nothing will encourage facility staff to participate like financial or recognition incentives. Employee incentives for participating in the pollution prevention program definitely capture people's attention. Many facilities offer bonuses or other awards to employees who suggest viable ways to prevent pollution. Announcing the incentives program in conjunction with the publicity effort will spark interest and participation. If your agency has a suggestion program or other financial compensation programs, you might use these to reward good ideas and participation.

Step 4: Develop a Baseline

Executive Order 12856 (Section 3-304) requires all Federal facilities to comply with the Toxic Release Inventory (TRI) reporting requirements under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA). As explained in Section 2-207 of Executive Order 12856, these additional toxic pollutants may include "extremely hazardous chemicals" as defined in Section 329(3) of EPCRA, hazardous wastes as defined under the Resource Conservation and Recovery Act (RCRA) of 1976 (42 U.S.C. 6901-6986), or hazardous air pollutants under the Clean Air Act Amendments (42 U.S.C. 7403-7626). For the purposes of establishing the baseline (under 3-302(c)), "other chemicals" are in addition to (not instead of) the Section 313 (TRI) chemicals. This means that facilities must not only determine which TRI chemicals they use and release at or above the thresholds established under EPCRA but also have to quantify the use and release of other "extremely hazardous chemicals" in developing their pollution prevention plans. Facilities may choose to highlight this TRI reporting and related reductions in the individual facility pollution prevention plans required by Section 3-302(d) of this Executive Order.

The chemical usage and release baseline required for TRI reporting is the first step in developing a facility baseline. These data are the minimum data needed for a hazardous material usage and release baseline. Such data, however, will not be the only useful information for developing a facility pollution prevention plan that addresses all environmental issues and costs.

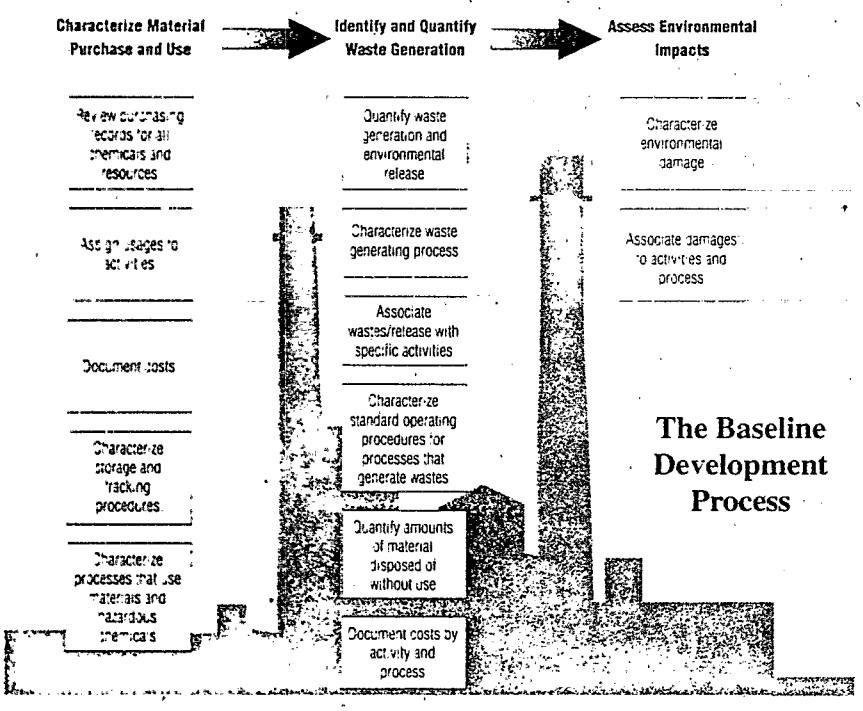
Developing an environmental baseline involves building a comprehensive picture of the materials usage patterns and environmental impacts associated with the facility. To develop a complete baseline, you will have to collect various information and assimilate it into a uni-

fied, multimedia description of your facility's environmental impacts. The baseline will define materials usage patterns and the environmental problems that arise from these usage patterns. To obtain this information, you will search and review data with the operations staff who are tasked to support this effort. Specifically, each waste generating operation should have one point of contact who can provide baseline statistics that represent that operation.

You can use the information gathered in several ways to describe the impacts created by onsite activities. In many cases, you may have to calculate or estimate the exact impacts by using a material balance calculation. The volumes of chemical releases are calculated by quantifying the amounts of materials used and the known amounts of waste generated. This method assumes that all material used will either be used in the product, become a waste, or be released into the environment. The mass balance is a simple way to account for all material that comes into the facility.

Pollution prevention can begin when materials enter the facility. Therefore, the baseline development process begins with the purchasing and supply departments. You and your pollution prevention team should determine who is responsible for purchasing and handling raw materials. Does one person order everything in a tightly controlled system, or can many people order materials for their sections' needs or their own needs? How does the supply system track, store, and distribute the new materials? Developing a baseline of purchasing information also involves quantifying the amounts and costs of the materials purchased and distributed, as well as identifying the locations and processes where they are being used.

With the materials purchasing, handling, and usage information collected, one-half of the puzzle is complete. The other half focuses on identifying waste generation and environmental releases from the facility. What products or services are being conducted at the facility that consume materials? What wastes and pollutants are being generated by the use of the materials, what processes are generating these wastes and pollutants, and what are the volumes and characteristics of the wastes being generated? In addition, you



Keys to Success in Developing a Baseline

In developing a baseline, it is crucial to involve all appropriate staff. The baseline is the foundation of the pollution prevention program. Everyone who generates waste or creates an environmental impact must be included in the beginning. Key personnel include:

- Environmental coordinator and the baseline development team
- Hazardous waste collection site personnel
- Waste generators
- Purchasing department
- Supply department
- Public works department
- Environmental program staff
- Safety program staff.

Data will be inconsistent or nonexistent. Your most difficult challenge will be collecting enough information to prepare the baseline. To simplify the data collection process, be sure to:

- Educate staff on what information is needed and why.
- Carefully document data/information and manage it for easy retrieval.
- Do not be shy; conduct interviews with facility staff and ask questions. Oftentimes, staff are the only source of accurate data and information.
- Be resourceful; you and your team's observations and analysis may be the only way to evaluate specific operations.

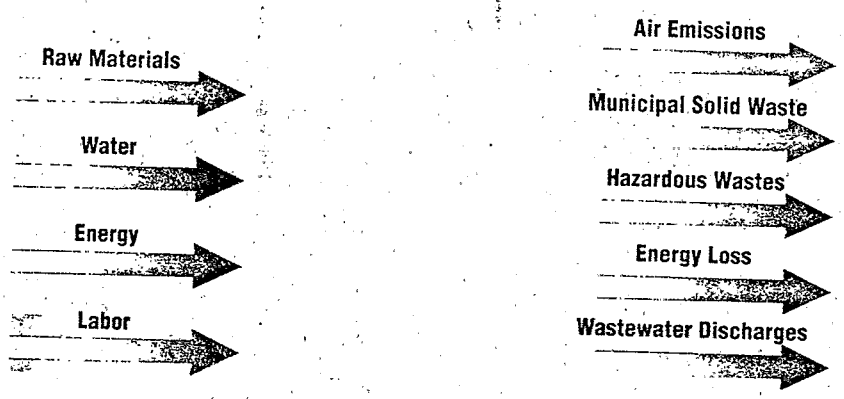
should understand how wastes are managed following their generation, what problems are associated with the management or mismanagement of these wastes, and how they are disposed of. You should also identify the costs associated with waste handling activities and whose budget pays for these costs.

At this point, the puzzle might appear finished, but the borders are still missing. The borders consist of the facility's natural resources and land use. You and your team should investigate how facility activities affect the external environment. What are the impacts of these activities on the natural resources and land, not only on the facility's property but beyond its borders? Stormwater runoff, groundwater contamination, and air emissions are examples of the environmental effects that might be characterized in your baseline.

Remember that the reason you are developing a baseline is to assess pollution prevention opportunities that might be taken to reduce environmental impacts, waste generation, and costs. When you begin to collect baseline data, you will observe operations and review data. As part of this process, you may identify pollution prevention opportunities. You should document these opportunities and incorporate them into your facility pollution prevention plan.

The baselining effort may require significant effort over a long period of time. The size of your facility, the number of waste generating processes, and environmental program staffing may make the baselining task a timely effort. Baselining should be a continuous process. You should develop an initial baseline within your time and staff constraints and build it over time. If you must gradually develop a baseline, start with the processes that you know create your most serious environmental problems and proceed from there. For example, you can use your TRI reporting data as your initial facility baseline. Over time, you can expand these data to include other chemicals and environmental impacts.

Baselining is a critical effort that should continue from this point forward. Baselining is the process of documenting environmental impacts, associating them with facility activities, and compiling records into an accessible information base. The table on pages 14 and 15 identifies many types of information that might be useful in developing your facility environmental baseline.



Material Balance for Defining Usage Patterns

Step 5: Conduct Pollution Prevention Activities and Opportunity Assessments

Under Section 3-302(d) of Executive Order 12856, you are required to identify pollution prevention activities and conduct opportunity assessments as part of your pollution prevention plan. Specifically, Section 3-302(d) states that "*Federal agencies shall conduct assessments of their facilities as necessary to ensure development of such plans and of the facilities' pollution prevention programs.*"

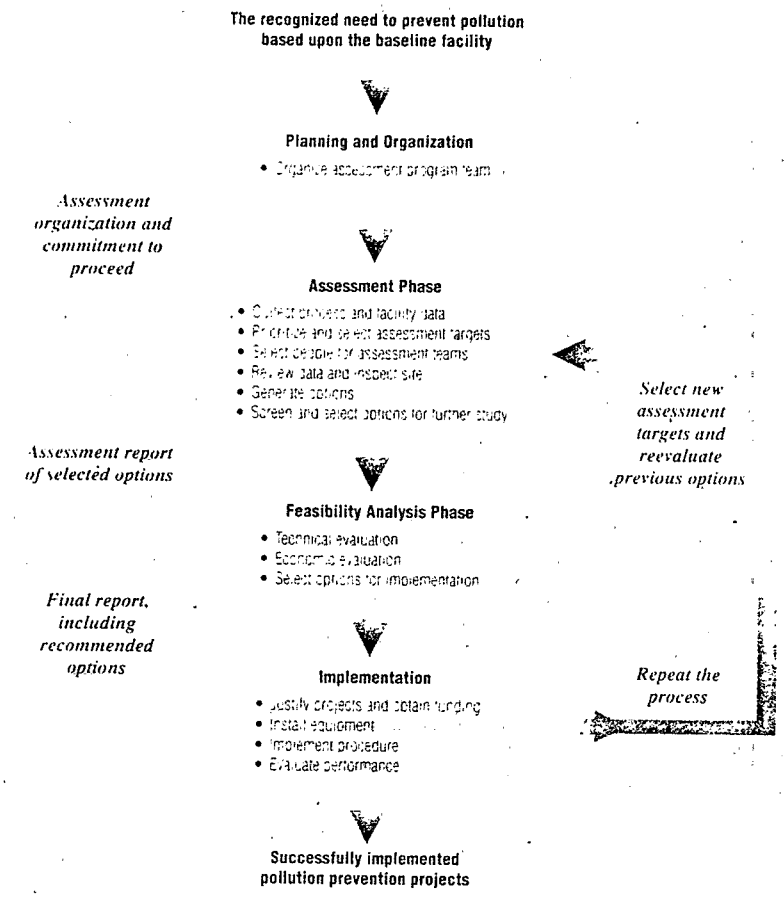
Using the baseline data, you can identify potential pollution prevention activities and opportunities. For example, the baseline may indicate that water usage is a critical issue for a facility. If water is a critical issue, what activities can be initiated to reduce usage, waste, and overall cost? For every issue documented under the baseline, the team should identify activities that will promote pollution prevention. In general, these activities will include the following:

- Additional Analysis—The baseline may indicate that a process or environmental impact is not fully understood and that more complete information or data are needed. To fully characterize the problem, the staff will have to conduct analyses, analytical measurements, or studies. Upon completion of these analyses, the staff will assess pollution prevention opportunities.
- Immediate Implementation—The baseline may provide applications of existing pollution prevention strategies, techniques, or technologies that can be implemented immediately to reduce environmental impacts. In such cases, the facility may seek to implement pollution prevention options immediately.

- Pollution Prevention Opportunity Assessments—The baseline may also show that processes may be amenable to pollution prevention options. To define the best option, the staff should conduct a thorough pollution prevention opportunity assessment. Executive Order 12856 requires all Federal facilities to conduct opportunity assessments (as needed) to develop their facility pollution prevention plan. Several manuals (referenced in Section III) can be used to conduct pollution prevention opportunity assessments. Page 16 provides a general summary of the assessment process.

Focus your initial effort on the pollution prevention activities that affect processes responsible for the environmental issues or impacts of greatest concern. Setting priorities requires weighing different objectives, such as toxic use reduction, cost reduction, or water use minimization. Each facility will have its own objectives depending on its overall pollution prevention goals and site-specific conditions (see Step 6 below).

Your facility pollution prevention plan should include a list of all of the pollution prevention activities and opportunities identified in this step. The facility pollution prevention plan will eventually act as a road map that ties together all of the additional analyses with the immediate implementation and opportunity assessment activities. As activities are completed or new ones identified through pollution prevention opportunity assessments, the list of prevention activities will change.



Procedure for Pollution Prevention Opportunity Assessments

Step 6: Develop Criteria and Rank Facility-Wide Pollution Prevention Activities

By this time, you have a list that describes hundreds of pollution prevention activities. The next step is to develop priorities and rank the activities. That is, develop a list of action items that you and facility staff will undertake to integrate pollution prevention into your facility's activities. The order in which you choose to initiate pollution prevention activities and projects depends upon facility-specific considerations and environmental goals. These considerations will be used to rank all of the pollution prevention activities identified previously. The following considerations are commonly used to rank such activities:

- Environmental Compliance—The project's impact on improving the facility's overall environmental compliance status. Section 3-301(b) of Executive Order 12856 places special emphasis on identifying and implementing pollution prevention projects that improve compliance.
- Mission Impact—The project's potential impact on the facility's mission and the ability of the staff to accomplish their mission.
- Environmental Benefits—The project's environmental benefits (e.g., air emission reduction, hazardous waste minimization).
- Ease of Implementation—Complex changes that require additional staff effort may not be accepted as easily as simpler changes.
- Cost Savings—The potential cost savings associated with project implementation. Pollution prevention techniques that result in improved efficiency and cost savings are usually accepted more readily than options that result in increased costs.

Types of Information for Developing an Environmental Baseline

Information Type	Uses	Sources
Material Usage for Hazardous and Nonhazardous Materials of Concern	• Identifying and quantifying use of target materials at the facility • Defining the usage patterns of the activities resident to the facility • Performing mass balance estimations of environmental releases facility-wide and activity-specific • Determining whether or not the facility meets Toxic Release Inventory reporting thresholds for chemicals of concern • Developing a list of materials and products used at the facility that must be evaluated to identify which contain hazardous components, including the EPA 17 chemicals of concern	• Supply function files and/or data systems: material purchasing, requisition, and manifesting records often important • Activity requisition records (if kept or complete) • Warehouse material inventory records • Facility material inventory records • Direct observation of use patterns and practices through onsite facility assessments • TRI (Form R) report
Components of Materials Used at the Facility	• Identifying the use of specific hazardous components, such as the EPA 17 chemicals of concern or extremely toxic materials • Determining where chemical substitute analyses may be needed	• Materials Safety Data Sheets (MSDS) kept at each of the activities and by the Health and Safety Office; on-line MSDS systems maybe useful in cases where materials identified but sheets are not available • Equipment specifications
Power Usage and Water Consumption/ Disposal Statistics for Each Activity at the Facility	• Documenting how utilities are used to identify opportunities to reduce usage • Identifying greatest contributors to sewered, aqueous wastes	• Utility usage statistics • Building meters • Onsite observation and estimation of non-metered uses based on rough measurement (flow over time)
Facility Designs	• Verifying the location of storm sewer and sanitary sewer inlets and outfalls • Verifying the location of and drainage to all oil/water separators • Understanding the flow of stormwater and surface water to determine potential impacts • Locating underground and above ground storage tanks • Locating washracks and suitable sites for washing activities • Documenting the sewer system and design of the wastewater treatment facilities (if present)	• Engineering facility records and maps • Facility master planning documents • Construction records • Corps of Engineers maps and records if facility built or modified by the Corps • Onsite characterization of facilities and processes

Types of Information for Developing an Environmental Baseline (continued)

Information Type	Uses	Sources
Hazardous Materials and Waste Handling Procedures	• Identifying materials management practices that result in wastes • Identifying waste management practices that result in releases of chemicals to the environment • Defining practices that inhibit segregation and recycling of wastes • Identifying practices that result in compliance problems	• Standard operating procedures for hazardous materials and waste handling and management activities • Mission statements • Equipment specifications • Spill prevention and management plans • Onsite observation of hazardous material and waste management practices • Permits
Solid Waste Management Procedures	• Identifying opportunities for recycling • Creating plans for comprehensive recycling projects	• Waste management contracts • Recycling program statements or plans • Onsite observation of solid waste management practices as implemented by residents and staff
Solid and Hazardous Waste Generation and Disposal Statistics	• Developing the waste generation baseline that will be used to measure success in attaining prevention goals • Developing priorities for conducting initial facility and process-specific facility assessments • Quantifying the costs associated with hazardous waste management to help create cost justifications for prevention projects • Quantifying the costs associated with solid waste generation and disposal to develop programs that are more cost effective and comprehensive • Identifying the potential for alternative waste management practices, including composting and waste exchange/sale	• Facility and process flow diagrams • Waste management contracts and billing statements • Hazardous materials shipping manifests • Existing hazardous waste tracking systems • Facility records and files on waste generation • Facility-wide waste estimation surveys • Supply system records as input to mass balance estimations • TRI (Form R) reports
Regulatory Operating Parameters	• Defining release rates of regulated materials to the air, water, and soils • Identifying wastes associated with facility activities • Identifying compliance issues that are often the highest priority considerations for the facility managers and environmental staff	• Water discharge permits • City sanitary discharge permits • Air permits • Hazardous waste storage permits • Environmental compliance audit reports
Environmental Impacts	• Providing a summary of environmental impacts caused by the facility • Identifying and quantifying the impacts that may arise from land management activities	• Land and facility management plans • Environmental assessments and impact studies (National Environmental Policy Act documents)

Key Information About Pollution Prevention Opportunity Assessments

Pollution Prevention Opportunity Assessments

The pollution prevention opportunity assessment is one of the most important activities that you will perform in the planning and implementation of your facility pollution prevention program. The opportunity assessment is a tool used to define the specific characteristics of a single operation that creates environmental impacts (e.g., wastes, releases of toxic chemicals to the environment, power/water usage, habitat destruction). Specifically, the pollution prevention opportunity assessment is a systematic evaluation of processes and operations to:

- Characterize all aspects of the process or operation, including process flow, waste generation patterns, material and power consumption, costs, manpower, reliance on toxic chemicals
- Define the impacts that the process and related wastes have on the air, water, and land
- Associate impacts and wastes with specific unit operations
- Assign related costs and liabilities with specific wastes and management practices.

This detailed process information is used to identify, refine, and plan the implementation of pollution prevention technologies that will reduce the environmental impacts associated with the process.

Pollution prevention opportunity assessments are performed after the baselining activity. An opportunity assessment can be performed anytime after the baseline is developed to augment baseline data. Hence, opportunity assessments can be performed as part of the planning process or anytime after the planning process. EPA recommends that detailed, process-specific opportunity assessments be performed after completion of the facility pollution prevention program plan so that environmental staff can develop priorities in conducting opportunity assessments for all candidate operations. Complete the facility plan before initiating the detailed pollution prevention opportunity assessments.

Common Pollution Prevention Opportunities

When conducting an opportunity assessment, it is important to consider all types of activities. While it may be easier to focus on source reducing technologies, you may be ignoring inexpensive and easy fixes that can result in significant reductions that arise from procedures or policy modifications. Training and awareness may also yield significant reductions. Training an equipment operator to properly operate a machine or increasing worker awareness about a particular procedure may eliminate an environmental or cost concern. All of the following types of activities may reduce environmental impacts:

- Policy changes
- Procedural changes
- Equipment modifications
- Material substitution
- Training
- Efficiency improvements
- Waste stream segregation
- Housekeeping practices
- Inventory control
- Reuse of materials.

A pollution prevention opportunity assessment should consider any of these options as a potential approaches to meeting environmental goals.

Keys to Success in Conducting Opportunity Assessments

The following approaches will facilitate your opportunity assessment:

- Solicit assistance and input from staff who operate the process. They are the experts.
- Build consensus among staff on the best pollution prevention options for their processes. If they do not agree, they will not implement changes.
- Explain what you are doing. The staff you are helping with an assessment will have to implement the opportunities identified.
- Explain why the assessment is important to all staff involved.
- Do not rule out any options until you have actually considered the merits and potentials (see Steps 5 and 6).
- Do not rush. If you have to go back for more information, do so.
- Use information sources, data systems, and technical assistance services to generate ideas (see Section III).

The most common problem arises when process staff do not understand why you are asking so many questions. You need their help, so solicit their participation by:

- Explaining what you are doing and why
- Asking for their input
- Building consensus
- Being considerate of their other duties
- Giving examples of how pollution prevention will make their jobs easier.

Remember, you cannot do this alone. The staff who generate the waste will ultimately have to reduce it. They must be involved from the very beginning. To assist you in conducting opportunity assessments, EPA has published several manuals that describe assessment techniques. Section III provides references for these documents.

Other criteria that you may consider include the availability of disposal capacity, community concerns, environmental justice goals, worker safety/exposure, anticipation of future regulations, and resource consumption.

After you have identified ranking criteria, you should rank all pollution prevention activities identified on a numerical scale by assigning a value that reflects how the activity matches each criterion. The highest ranking activity (i.e., the opportunity with the highest total score) should be considered first for implementation. Often, one criterion is considered to be more important than the others. In such a case, a weighting factor can be used. Further information on ranking schemes is presented in the guidance documents listed in Section III.

Example of a Ranking Matrix Used at a U.S. Postal Service Facility

Criteria	Water-Borne Coating	High-Volume Low-Pressure Spray Gun	Gun Washer Station
Reduction in Occupational Hazard	5	5	5
Reduction in a RCRA-Regulated Waste	5	5	4
Reduction of a 33/50 Program Chemical	5	5	4
Reduction of Environmental Impact	4	4	2
Capital Cost	3	4	2
Ease of Implementation	2	2	3
TOTAL	24	25	20

5 = very positive. 4 = positive. 3 = neutral. 2 = negative. 1 = very negative

Step 7: Conduct a Management Review

Once the pollution prevention team has developed a ranked list of pollution prevention activities, you should obtain upper management and senior staff support. This is an important opportunity for upper management to reaffirm its support for the pollution prevention program. To do this, you should convene a management review committee to review your facility pollution prevention plan. The management review committee should include representatives from all of the organizations that will be affected by the pollution prevention program.

During management review, the pollution prevention team should present the ranked list of activities for approval. You should explain the process used to develop the list and emphasize the potential benefits of the effort. Upper management must understand the relationship between the pollution prevention program activities and their impacts on the facility mission and existing environmental programs. The end product of this review should be a coherent, integrated pollution prevention program that supplements other facility programs (e.g., health and safety, environmental compliance, training, and development).

By providing this information, you will allow upper management to make informed decisions from a program-wide perspective about prioritizing pollution prevention projects, developing an implementation schedule, and providing funding. If additional resources are needed for establishing the pollution prevention program (e.g., staff positions), they should be requested at this point.

You now have a management-approved pollution prevention plan for your facility. The next steps focus on getting your program started. It is important to realize that the following steps may proceed simultaneously. In addition, you may find that the facility pollution prevention plan changes once you start learning more and conducting additional assessments. Be flexible and willing to modify the plan as you proceed.

PUBLIC PARTICIPATION

Executive Order 12856 requires facilities to provide the public with access to their pollution prevention plans and programs. Specifically, the Executive Order requires facilities to provide public access to their facility pollution prevention plans and encourages facilities to include public participation in the facility planning process. Under Section 508 of Executive Order 12856, Federal facilities should:

- Maintain a copy of their pollution prevention plans onsite for review by their host agencies, EPA, and State regulators.
- Provide their facility pollution prevention plans to EPA or States upon request but should not submit the plans directly to EPA.
- Readily allow and encourage public access to their facility pollution prevention plans and all supporting data.

Under Section 301 of Executive Order 12856, Federal facilities should also involve the public in developing all facility pollution prevention plans and programs. In doing so, Federal facilities will foster a cooperative environmental protection approach within their communities.

MEASUREMENTS OF PROGRESS

Executive Order 12856 requires agencies and facilities to report on their efforts to reduce the release of hazardous and extremely toxic materials to the environment. Specifically, the Order requires facilities and agencies to report on their progress in accomplishing their 50-percent reduction in the use and release of extremely toxic (i.e., TRI) chemicals. Therefore, it is critical that you establish mechanisms to measure the impacts of pollution prevention activities on waste generation and environmental releases of chemicals. The impacts should be measured and reported in comparison to the facility-wide baseline (Step 4).

Measuring progress in achieving pollution prevention goals is part of an on-going process that starts with the official ribbon cutting ceremony. It can be thought of as a self-auditing process that enables the facility to measure the program's development as it grows. By carefully monitoring program development, the pollution prevention team can make the necessary adjustments and, thus, be certain that each pollution prevention dollar is being spent wisely.

Measurement activities occur at two levels—the program level and the project level. Each level entails a slightly different approach. Program-level measurement involves a constant process of evaluation and feedback that should occur after the initial program has been established. Milestones should be built into the project implementation schedule, which is submitted during the initial management review. The evaluation process may reveal the need for further data collection or adjustment of the scope of the program's goals and objectives. Additional funding and staff resources may be required for implementation to proceed according to schedule.

Measurement at the project level is more specific. Each project should be evaluated against the facility baseline data to determine how successfully it is accomplishing its intended purpose. For instance, the environmental coordinator needs to know if a newly installed piece of equipment has met expectations that it will reduce waste generation by a certain percentage and save on disposal costs. Regardless of whether the waste volumes turn out to be lower or higher than expected, the coordinator should have this information. Other parameters used for evaluating project success are reductions in the following areas:

- Environmental compliance violations
- Material losses
- The number of materials purchased requiring Material Safety Data Sheets
- The number of worker sick days resulting from occupational exposure.

The pollution prevention team should develop a project tracking system for monitoring projects. The complexity of the system depends on the number and type of projects being implemented. The team should work closely with other staff in the environmental department to avoid collecting the same data twice. Information collected as part of program monitoring may be useful for complying with environmental reporting requirements.

As a result of the evaluation process, the pollution prevention team can apply lessons learned to future projects and prevent the same mistakes from being repeated. The team should also establish a formal mechanism for reporting the results of the pollution prevention program to management, as well as to the facility community at large. Keeping management interested in the program's achievements encourages continued funding for future initiatives. Keeping the facility personnel interested increases cooperation and enthusiasm.

IMPLEMENTATION OF THE PLAN

The facility planning requirements under Executive Order 12856 were established to encourage Federal facilities to develop pollution prevention programs. As such, developing a facility-wide pollution prevention program plan is only a beginning. The facility pollution prevention plan only identifies activities that should help to integrate pollution prevention into your facility's mission. The real effort begins once the plan has been finalized. At that point, you and your co-workers must translate the facility pollution prevention plan into activity. If not, the facility pollution prevention plan will become just another study.

To get the program off to a fast start, you should select a few low-cost, high-profile pollution prevention projects for immediate action. To support you in conducting cost-benefit analyses to justify projects, EPA developed the *Costing and Life Cycle Analysis for Pollution Prevention Investments* manual. This manual provides guidelines for conducting financial evaluations of pollution prevention options (see Section III).

The results of these initial projects can demonstrate the utility and effectiveness of pollution prevention in meeting environmental quality standards. Moreover, these initial projects can be used to build support for the pollution prevention program. Once the pollution prevention program demonstrates waste reductions and cost savings, it will gain legitimacy, support, and interest. Various organizations at your facility may want to pursue pollution prevention alternatives once your initial efforts demonstrate savings and reductions in waste and pollution.

By developing a pollution prevention plan, each Federal facility will meet Executive Order 12856 planning requirements. In implementing its plan, each Federal facility will improve its environmental program and contribute to its agency-specific reduction goals, also required under Executive Order 12856. Ultimately, through its pollution prevention plan, each facility will have the opportunity and mission to demonstrate environmental stewardship that will benefit the Federal government and the nation as a whole.

Measuring Progress and Success

Measuring the progress and success of pollution prevention activities is critical at both the programmatic and project levels. By measuring the progress of each project, the facility can determine the success of the program as a whole. To measure the success of projects and the program you should undertake the following initiatives:

- Establish Milestones—The pollution prevention program and each individual project should be designed to accomplish milestones over a measurable amount of time. Milestones for the program may be conducting opportunity assessments, providing staff training, and reducing wastes. Milestones for projects might include conducting an opportunity assessment, choosing a pollution prevention option, purchasing equipment, and reducing environmental releases of toxic chemicals by a known percentage over a defined period of time. Every pollution prevention activity should include defined milestones for tracking progress and success.
- Identify Measurement Criteria—Each pollution prevention project should include measurable variables that define success. This might include pounds of chemicals eliminated from disposal (assuming the same level of activity) or the percentage of paper used that contains recycled content. For every project, specific target measurements are needed to objectively evaluate the progress or success of the effort.
- Identify Data and Information Requirements—For each measurement criterion, you should define the data needed to adequately represent the defined standard. Information requirements might include waste generation statistics, chemical release rates, chemical loss rates, chemical use rates, production rates, costs, power and water usage statistics, and other types of information.
- Develop a System to Compile and Track Information and Data—A computer data base or spread sheet system might be useful in compiling data. If measurement criteria require data manipulations or calculations, a computer spread sheet program will facilitate tracking. For example, a measurement criterion might be a ratio of waste generated to the level of production or activity. Therefore, you would collect waste generation and production data and need to calculate a simple ratio. A computerized system may be helpful (especially if you track numerous projects and criteria).
- Evaluate Data and Information—As you compile data and perform calculations, it is critical to review the projects and programs. These data will help to define program successes and failures. The data will also help identify additional activities that will strengthen the pollution prevention projects and the facility-wide program.

Starting a Pollution Prevention Project

Unlike compliance requirements, pollution prevention options involve changing processes and activities that create wastes and environmental impacts. Therefore, you must have the cooperation of the shop or facility staff. The following considerations may play a critical role in initiating pollution prevention projects:

- Obtain approval for the pollution prevention project from your management and the management of the affected facility and involve staff on defining the pollution prevention project. Develop and implement their ideas about the best reduction approach.
- Enlist operational staff support. The facility staff will determine how well a pollution prevention option works. The staff must understand and embrace the concept for success.
- Determine whether training is necessary so that the personnel understand the purpose of the project, the goals, and the criteria for success. Staff should clearly understand the direct benefits of the project, such as reduced exposure to toxic chemicals, less paperwork, and a cleaner environment.
- Determine whether policies or standard operating practices need to be modified.
- If a project requires purchasing equipment, network with other Federal facility coordinators or technical assistance programs to learn what does and does not work. Remember to include installation costs when preparing the request for funding.
- Work with the Public Affairs Office to advertise the project once it is initiated and is reducing pollution. Be sure to recognize all staff who are contributing to the project.

SECTION III: TECHNICAL ASSISTANCE AND LITERATURE

As [illegible] plan and implement [illegible] projects at your Federal facility, you may want additional [illegible] approaches and solutions to specific problems. To assist [illegible] efforts, various Federal agencies have developed guidance documents on ways to develop and implement pollution prevention programs. These are identified below. In addition, some Federal and State agencies provide direct technical assistance on pollution prevention topics and projects. Contacts for these assistance programs are listed in the pages that follow.

FEDERAL FACILITY POLLUTION PREVENTION PLANNING GUIDE

POLLUTION PREVENTION PLANNING DOCUMENTS

1. *Federal Facility Pollution Prevention: Tools for Compliance*
   EPA/600-R-94-154
   U.S. Environmental Protection Agency (EPA)
   Office of Research and Development
   26 West Martin Luther King Drive
   Cincinnati, OH 45268
   513-569-7562

2. *Pollution Prevention in the Federal Government: Guide for Developing Pollution Prevention Strategies for Executive Order 12856 and Beyond*
   EPA/300-B-94-007
   U.S. EPA
   401 M Street, SW (2261)
   Washington, DC 20460
   202-260-9801

3. *Facility Pollution Prevention Guide*
   EPA/600-R-92-008
   U.S. EPA
   Office of Research and Development
   26 West Martin Luther King Drive
   Cincinnati, OH 45268
   513-569-7562

4. *Costing and Life Cycle Analysis for Pollution Prevention Investments: A Practical User's Guide to Environmental Project Financial Analysis at Federal Facilities*
   U.S. EPA
   401 M Street, SW
   Washington, DC 20460
   202-260-9801

5. *Pollution Prevention Directory*
   EPA/742-B-94-005
   U.S. EPA
   401 M Street, SW
   Washington, DC 20460
   202-260-9801

AGENCY GUIDANCE DOCUMENTS

6. *Navy Shore Installation Pollution Prevention Planning Guide*
   Doc. # OPNAV-P45-120-10-94
   Office of Chief of Naval Operations
   2000 Navy Pentagon
   Washington, DC 20350
   703-602-5334

7. *U.S. Air Force Installation Pollution Prevention Program Manual*
   United States Air Force
   Air Force Center for Environmental Excellence (AFCEE)
   AFCEE/ESP
   8106 Chennault Road
   Building 1161
   Brooks AFB, TX 78235-5318
   1-800-233-4356

8. *Army Pollution Prevention Plan Manual: A Guide for Army Installations*
   Army Environmental Policy Institute
   430 10th Street, Suite 5105
   Atlanta, GA 30318
   404-875-6813

9. *Guidance for Preparation of Site Waste Minimization and Pollution Prevention Awareness Plans*
Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585
301-427-1570

TECHNICAL ASSISTANCE PROGRAMS

1. **Pollution Prevention Information Clearinghouse (PPIC)**
U.S. Environmental Protection Agency
PM 211-A
401 M Street, SW
Washington, DC 20460
202-260-1023

The Pollution Prevention Information Clearinghouse (PPIC) is dedicated to reducing or eliminating industrial pollutants through technology transfer, education, and public awareness. It is a free, nonregulatory service of the U.S. EPA and consists of a repository of pollution prevention information, a telephone reference and referral service, and a computerized information exchange system.

2. **Pollution Prevention Information Exchange System (PIES)**
EPA Systems Development Center
200 N. Glebe Road
Arlington, VA 22203
703-506-1025 (modem)

PIES is a free, 24-hour electronic network accessible by personal computer equipped with a modem. PIES consists of message centers, bulletins, technical data bases, case studies, and issue-specific conference listings.

3. **Federal Agency Mini-Exchange (FAME)**
EPA Systems Development Center
200 N. Glebe Road
Arlington, VA 22203
703-506-1025 (modem)

FAME is a data base on the Pollution Prevention Information Exchange System that provides information on pollution prevention/recycling efforts at Federal facilities.

4. **Defense Environmental Network and Information Exchange (DENIX)**
DECIM Office
Hoffman 2, Room 12S49
200 Stovall Street
Alexandria, VA 22332
1-800-642-3332
703-325-0002

DENIX is a Department of Defense communications platform for the dissemination and exchange of environmental information across all DOD components.

5. **PRO-ACT**
AFCEE
8106 Chennault Road
Building 1161
Brooks AFB, TX 78235-5318
1-800-233-4356
210-536-4214
DSN 240-4214

PRO-ACT is an environmental information clearinghouse and hotline provided by the Air Force Center for Environmental Excellence (AFCEE). PRO-ACT services are provided free of charge to all Air Force personnel.

6. **Center for Environmental Research Information (CERI)**
Dorothy Williams
U.S. Environmental Protection Agency
Center for Environmental Research Information (CERI)
26 West Martin Luther King Drive
Cincinnati, OH 45268
513-569-7562

CERI serves as the exchange of scientific and technical environmental information produced by EPA in brochures, capsule and summary reports, handbooks, newsletters, project reports, and manuals.

7. **Center for Waste Reduction Technologies (CWRT)**
Center for Waste Reduction Technologies
American Institute of Chemical Engineers
345 East 47th Street
New York, NY 10017
212-705-7407

CWRT was established in 1989 by the American Institute of Chemical Engineers to support industry efforts in meeting the challenges of waste reduction through a partnership with industry, academia, and government.

8. **The National Pollution Prevention Roundtable**
David Thomas
218 D Street, SE
Washington, DC 20003
202-543-7272

The Roundtable is a group of pollution prevention programs at the State and local level in both the public and academic sectors. The member programs are engaged in activities including multi-audience training and primary to post-secondary pollution prevention education.

9. **Northeast States Pollution Prevention Roundtable (NE Roundtable)**
Terri Goldberg, Program Manager
Northeast States Pollution Prevention Roundtable/Northeast Waste Management Officials' Association
85 Merrimac Street
Boston, MA 02114
617-367-8558

The NE Roundtable was initiated in 1989 by the Northeast Waste Management Officials' Association to assist State programs, industry, and the public in implementing effective source reduction programs.

10. **Pacific Northwest Pollution Prevention Research Center**
Madeline Grulich, Director
Pacific Northwest Pollution Prevention Research Center
411 University Street, Suite 1252
Seattle, WA 98101
206-223-1151

The Pacific Northwest Pollution Prevention Research Center is a non-profit public-private partnership dedicated to the goal of furthering pollution prevention in the Pacific Northwest.

11. **Waste Reduction Institute for Training and Applications Research, Inc. (WRITAR)**
Terry Foecke
Waste Reduction Institute for Training and Applications Research, Inc.
1313 5th Street, SE
Minneapolis, MN 55414-4502
612-379-5995

WRITAR is designed to identify waste reduction problems, held find their solutions, and facilitate the dissemination of this information to a variety of public and private organizations.

12. **Waste Reduction Resource Center for the Southeast (WRRC)**
Gary Hunt
Waste Reduction Resource Center for the Southeast
3825 Barrett Drive
PO Box 27687
Raleigh, NC 27611-6787

WRRC was established to provide multimedia waste reduction support for the States of U.S. EPA IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee).

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Department of Defense
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Office of Waste Management (EM-334)
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Food and Drug Administration
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Chief, FDA Safety Office (HFA-205)
Food and Drug Administration
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General Services Administration
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Safety and Environmental Division
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General Services Administration, Room 4340
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Department of the Interior
Connie Kurtz
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202-208-7554

Department of Justice
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Safety and Health Manager
Security and Emergency Planning Staff
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National Aeronautics and Space Administration
Olga Dominguez
Environmental Management Division
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NASA Headquarters, Code JE
Washington, DC 20546
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National Oceanic and Atmospheric Administration
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Senior Environmental Compliance Officer
National Oceanic and Atmospheric Administration
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National Security Agency
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Environmental Service Division
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Office of the Secretary
Department of Transportation
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Coast Guard
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Compliance and Restoration Branch
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U.S. Coast Guard
USCG (G-ECV-1B)
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Washington, DC 20593
202-267-1941

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and Special Projects Staff
Federal Aviation Administration,
AEE-20
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Washington, DC 20591
202-267-8114

Department of the Treasury
William McGovern
Chief, Environmental Compliance
Division
Department of the Treasury
Treasury Annex
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Department of Veterans Affairs
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Chief, Hazardous Materials
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202-233-7863

STATE POLLUTION PREVENTION PROGRAMS

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Alabama Waste Reduction and
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Daniel E. Cooper, Chief
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Pollution Prevention Office
Alaska Department of Environmental
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Waste Reduction Assistance Program
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Alaska Health Project
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Arizona Department of
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CALIFORNIA
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Local Government Commission
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Sacramento, California 95814
916-448-1198

California Integrated Waste
Management Board
8800 Cal Center Drive
Sacramento, California 95826
Recycling Hotline: 800-553-2962
General Public Information:
916-255-2289

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Connecticut Department of Environmental Protection
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Herb Allen
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University of Delaware
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D.C. Department of Public Works
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Washington, DC 20020
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Florida Department of Environmental Regulation
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Joy Palmer
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ILLINOIS
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Tom Gross, Bureau Chief
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Kansas Department of Health and Environment
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Waste Reduction Assessment and Technology Transfer Training Program (WRATT)
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Stan Springer
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WEST VIRGINIA
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ANNEX A: EXECUTIVE ORDER 12856

Federal Register
Vol. 58, No. 150
Friday, August 6, 1993

Presidential Documents

Title 3—
The President

Executive Order 12856 of August 3, 1993

Federal Compliance With Right-to-Know Laws and Pollution Prevention Requirements

WHEREAS, the Emergency Planning and Community Right-to-Know Act of 1986 (42 U.S.C. 11001–11050) (EPCRA) established programs to provide the public with important information on the hazardous and toxic chemicals in their communities, and established emergency planning and notification requirements to protect the public in the event of a release of extremely hazardous substances;

WHEREAS, the Federal Government should be a good neighbor to local communities by becoming a leader in providing information to the public concerning toxic and hazardous chemicals and extremely hazardous substances at Federal facilities, and in planning for and preventing harm to the public through the planned or unplanned releases of chemicals;

WHEREAS, the Pollution Prevention Act of 1990 (42 U.S.C. 13101-13109) (PPA) established that it is the national policy of the United States that whenever feasible, pollution should be prevented or reduced at the source, that pollution that cannot be prevented should be recycled in an environmentally safe manner; that pollution that cannot be prevented or recycled should be treated in an environmentally safe manner; and that disposal or other release into the environment should be employed only as a last resort and should be conducted in an environmentally safe manner;

WHEREAS, the PPA required the Administrator of the Environmental Protection Agency (EPA) to promote source reduction practices in other agencies;

WHEREAS, the Federal Government should become a leader in the field of pollution prevention through the management of its facilities, its acquisition practices, and in supporting the development of innovative pollution prevention programs and technologies;

WHEREAS, the environmental, energy, and economic benefits of energy and water use reductions are very significant; the scope of innovative pollution prevention programs must be broad to adequately address the highest-risk environmental problems and to take full advantage of technological opportunities in sectors other than industrial manufacturing; the Energy Policy Act of 1992 (Public Law 102–486 of October 24, 1992) requires the Secretary of Energy to work with other Federal agencies to significantly reduce the use of energy and reduce the related environmental Impacts by promoting use of energy efficiency and renewable energy technologies; and

WHEREAS, as the largest single consumer in the Nation, the Federal Government has the opportunity to realize significant economic as well as environmental benefits of pollution prevention;

AND IN ORDER TO:

Ensure that all Federal agencies conduct their facility management and acquisition activities so that, to the maximum extent practicable, the quantity of toxic chemicals entering any wastestream, including any releases to the environment, is reduced as expeditiously as possible through source reduction; that waste that is generated is recycled to the maximum extent practicable; and that any wastes remaining are stored, treated or disposed of in a manner protective of public health and the environment;

Require Federal agencies to report in a public manner toxic chemicals entering any wastestream from their facilities, including any releases to the environment, and to improve local emergency planning, response, and accident notification; and

Help encourage markets for clean technologies and safe alternatives to extremely hazardous substances or toxic chemicals through revisions to specifications and standards, the acquisition and procurement process, and the testing of innovative pollution prevention technologies at Federal facilities or in acquisitions;

NOW THEREFORE, by the authority vested in me as President by the Constitution and the laws of the United States of America, including the EPCRA, the PPA, and section 301 of title 5, United States Code, it is hereby ordered as follows:

Section 1. *Applicability.*

1-101. As delineated below, the head of each Federal agency is responsible for ensuring that all necessary actions are taken for the prevention of pollution with respect to that agency's activities and facilities, and for ensuring that agency's compliance with pollution prevention and emergency planning and community right-to-know provisions established pursuant to all implementing regulations issued pursuant to EPCRA and PPA.

1 102. Except as otherwise noted, this order is applicable to all Federal agencies that either own or operate a "facility" as that term is defined in section 329(4) of EPCRA, if such facility meets the threshold requirements set forth in EPCRA for compliance as modified by section 3-304(b) of this order ("covered facilities"). Except as provided in section 1-103 and section 1-104 below, each Federal agency must apply all of the provisions of this order to each of its covered facilities, including those facilities which are subject, independent of this order, to the provisions of EPCRA and PPA (*e.g.*, certain Government-owned/contractor-operated facilities (GOCO's), for chemicals meeting EPCRA thresholds). This order does not apply to Federal agency facilities outside the customs territory of the United States, such as United States diplomatic and consular missions abroad.

1-103. Nothing in this order alters the obligations which GOCO's and Government corporation facilities have under EPCRA and PPA independent of this order or subjects such facilities to EPCRA or PPA if they are otherwise excluded. However, consistent with section 1-104 below, each Federal agency shall include the releases and transfers from all such facilities when meeting all of the Federal agency's responsibilities under this order.

1-104. To facilitate compliance with this order, each Federal agency shall provide, in all future contracts between the agency and its relevant contractors, for the contractor to supply to the Federal agency all information the Federal agency deems necessary for it to comply with this order. In addition, to the extent that compliance with this order is made more difficult due to lack of information from existing contractors, Federal agencies shall take practical steps to obtain the information needed to comply with this order from such contractors.

Sec. 2-2. *Definitions.*

2-201. All definitions found in EPCRA and PPA and implementing regulations are incorporated in this order by reference, with the following exception: for the purposes of this order, the term "person", as defined in section 329(7) of EPCRA, also includes Federal agencies.

2-202. *Federal agency* means an Executive agency, as defined in 5 U.S.C. 105. For the purpose of this order, military departments, as defined in 5 U.S.C 102, are covered under the auspices of the Department of Defense.

2-203. *Pollution Prevention* means "source reduction," as defined in the PPA, and other practices that reduce or eliminate the creation of pollutants through: (a) increased efficiency in the use of raw materials, energy, water, or other resources; or (b) protection of natural resources by conservation.

2-204. *GOCO* means a Government-owned/contractor-operated facility which is owned by the Federal Government but all or portions of which are operated by private contractors.

2-205. *Administrator* means the Administrator of the EPA.

2-206. *Toxic Chemical* means a substance on the list described in section 313(c) of EPCRA.

2-207. *Toxic Pollutants.* For the purposes of section 3-302(a) of this order, the term "toxic pollutants" shall include, but is not necessarily limited to, those chemicals at a Federal facility subject to the provisions of section 313 of EPCRA as of December 1, 1993. Federal agencies also may choose to include releases and transfers of other chemicals, such as "extremely hazardous chemicals" as defined in section 329(3) of EPCRA, hazardous wastes as defined under the Resource Conservation and Recovery Act of 1976 (42 U.S.C 6901–6986) (RCRA), or hazardous air pollutants under the Clean Air Act Amendments (42 U.S.C. 7403-7626); however, for the purposes of establishing the agency's baseline under 3-302(c), such "other chemicals" are in addition to (not instead of) the section 313 chemicals. The term "toxic pollutants" does not include hazardous waste subject to remedial action generated prior to the date of this order.

Sec. 3-3. *Implementation.*

3-301. *Federal Agency Strategy.* Within 12 months of the date of this order, the head of each Federal agency must develop a written pollution prevention strategy to achieve the requirements specified in sections 3-302 through 3–305 of this order for that agency. A copy thereof shall be provided to the Administrator. Federal agencies are encouraged to involve the public in developing the required strategies under this order and in monitoring their subsequent progress in meeting the requirements of this order. The strategy shall include, but shall not be limited to, the following elements:

(a) A pollution prevention policy statement, developed by each Federal agency, designating principal responsibilities for development, implementation, and evaluation of the strategy. The statement shall reflect the Federal agency's commitment to incorporate pollution prevention through source reduction in facility management and acquisition, and it shall identify an individual responsible for coordinating the Federal agency's efforts in this area.

(b) A commitment to utilize pollution prevention through source reduction, where practicable, as the primary means of achieving and maintaining compliance with all applicable Federal, State, and local environmental requirements.

3-302. Toxic Chemical Reduction Goals. (a) The head of each Federal agency subject to this order shall ensure that the agency develops voluntary goals to reduce the agency's total releases of toxic chemicals to the environment and off-site transfers of such toxic chemicals for treatment and disposal from facilities covered by this order by 50 percent by December 31, 1999. To the maximum extent practicable, such reductions shall be achieved by implementation of source reduction practices.

(b) The baseline for measuring reductions for purposes of achieving the 50 percent reduction goal for each Federal agency shall be the first year in which releases of toxic chemicals to the environment and off-site transfers of such chemicals for treatment and disposal are publicly reported. The baseline amount as to which the 50 percent reduction goal applies shall be the aggregate amount of toxic chemicals reported in the baseline year for all of that Federal agency's facilities meeting the threshold applicability requirements set forth in section 1-102 of this order. In no event shall the baseline be later than the 1994 reporting year.

(c) Alternatively, a Federal agency may choose to achieve a 50 percent reduction goal for toxic pollutants. In such event, the Federal agency shall delineate the scope of its reduction program in the written pollution prevention strategy

that is required by section 3-301 of this order. The baseline for measuring reductions for purposes of achieving the 50 percent reduction requirement for each Federal agency shall be the first year in which releases of toxic pollutants to the environment and off-site transfers of such chemicals for treatment and disposal are publicly reported for each of that Federal agency's facilities encompassed by section 3-301. In no event shall the baseline year be later than the 1994 reporting year. The baseline amount as to which the 50 percent reduction goal applies shall be the aggregate amount of toxic pollutants reported by the agency in the baseline year. For any toxic pollutants included by the agency in determining its baseline under this section, in addition to toxic chemicals under EPCRA, the agency shall report on such toxic pollutants annually under the provisions of section 3-304 of this order, if practicable, or through an agency report that is made available to the public.

(d) The head of each Federal agency shall ensure that each of its covered facilities develops a written pollution prevention plan no later than the end of 1995, which sets forth the facility's contribution to the goal established in section 3-302(a) of this order. Federal agencies shall conduct assessments of their facilities as necessary to ensure development of such plans and of the facilities' pollution prevention programs.

3-303. *Acquisition and Procurement Goals.* (a) Each Federal agency shall establish a plan and goals for eliminating or reducing the unnecessary acquisition by that agency of products containing extremely hazardous substances or toxic chemicals. Similarly, each Federal agency shall establish a plan and goal for voluntarily reducing its' own manufacturing, processing, and use of extremely hazardous substances and toxic chemicals. Priorities shall be developed by Federal agencies, in coordination with EPA, for implementing this section.

(b) Within 24 months of the date of this order, the Department of Defense (DOD) and the General Services Administration (GSA), and other agencies, as appropriate, shall review their agency's standardized documents, including specifications and standards, and identify opportunities to eliminate or reduce the use by their agency of extremely hazardous substances and toxic chemicals, consistent with the safety and reliability requirements of their agency mission. The EPA shall assist agencies in meeting the requirements of this section, including identifying substitutes and setting priorities for these reviews. By 1999, DOD, GSA and other affected agencies shall make all appropriate revisions to these specifications and standards.

(c) Any revisions to the Federal Acquisition Regulation (FAR) necessary to implement this order shall be made within 24 months of the date of this order.

(d) Federal agencies are encouraged to develop and test innovative pollution prevention technologies at their facilities in order to encourage the development of strong markets for such technologies. Partnerships should be encouraged between industry, Federal agencies, Government laboratories, academia, and others to assess and deploy innovative environmental technologies for domestic use and for markets abroad.

3-304. *Toxics Release Inventory/Pollution Prevention Act Reporting.* (a) The head of each Federal agency shall comply with the provisions set forth in section 313 of EPCRA, section 6607 of PPA, all implementing regulations, and future amendments to these authorities, in light of applicable guidance as provided by EPA.

(b) The head of each Federal agency shall comply with these provisions without regard to the Standard Industrial Classification (SIC) delineations that apply to the Federal agency's facilities, and such reports shall be for all releases, transfers, and wastes at such Federal agency's facility without regard to the SIC code of the activity leading to the release, transfer, or waste. All other existing statutory or regulatory limitations or exemptions on the application of EPCRA section 313 shall apply to the reporting requirements set forth in section 3-304(a) of this order.

(c) The first year of compliance shall be no later than for the 1994 calendar year with reports due on or before July 1, 1995

3-305. *Emergency Planning and Community Right-to-Know Reporting Responsibilities.* The head of each Federal agency shall comply with the provisions set forth in sections 301 through 312 of EPCRA, all implementing regulations, and future amendments to these authorities in light of any applicable guidance as provided by EPA. Effective dates for compliance shall be: (a) With respect to the provisions of section 302 of EPCRA emergency planning notification shall be made no later than 7 months after the date of this order.

(b) With respect to the provisions of section 303 of EPCRA all information necessary for the applicable Local Emergency Planning Committee (LEPC's) to prepare or revise local Emergency Response Plans shall be provided no later than 1 year after the date of this order.

(c) To the extent that a facility is required to maintain Material Safety Data Sheets under any provisions of law or Executive order, information required under section 311 of EPCRA shall be submitted no later than 1 year after the date of this order, and the first year of compliance with section 312 shall be no later than the 1994 calendar year, with reports due on or before March 1, 1995.

(d) The provisions of section 304 of EPCRA shall be effective beginning January 1, 1994.

(e) These compliance dates are not intended to delay implementation of earlier timetables already agreed to by Federal agencies and are inapplicable to the extent they interfere with those timetables.

Sec. 4–4. *Agency Coordination.*

4–401. By February 1, 1994, the Administrator shall convene an interagency Task Force composed of the Administrator, the Secretaries of Commerce, Defense, and Energy, the Administrator of General Services, the Administrator of the Office of Procurement Policy in the Office of Management and Budget, and such other agency officials as deemed appropriate based upon lists of potential participants submitted to the Administrator pursuant to this section by the agency head. Each agency head may designate other senior agency officials to act in his/her stead, where appropriate. The Task Force will assist the agency heads in the implementation of the activities required under this order.

4–402. Federal agencies subject to the requirements of this order shall submit annual progress reports to the Administrator beginning on October 1, 1995. These reports all include a description of the progress that the agency has made in complying with all aspects of this order, including the pollution reductions requirements. This reporting requirement shall expire after the report due on October 1, 2001.

4–403. *Technical Advice.* Upon request and to the extent practicable, the Administrator shall provide technical advice and assistance to Federal agencies in order to foster full compliance with this order. In addition, to the extent practicable, all Federal agencies subject to this order shall provide technical assistance, if requested, to LEPC's in their development of emergency response plans and in fulfillment of their community right-to-know and risk reduction responsibilities.

4–404. Federal agencies shall place high priority on obtaining funding and resources needed for implementing all aspects of this order, including the pollution prevention strategies, plans, and assessments required by this order, by identifying, requesting, and allocating funds through line-item or direct funding requests. Federal agencies shall make such requests as required in the Federal Agency Pollution Prevention and Abatement Planning Process and through agency budget requests as outlined in Office of Management and Budget (OMB) Circulars A-106 and A-11, respectively. Federal agencies should apply to the maximum extent practicable, a life cycle analysis and total cost accounting principles to all projects needed to meet the requirements of this order.

4–405. *Federal Government Environmental/ Challenge Program.* The Administrator shall establish a "Federal Government Environmental Challenge Program" to recognize outstanding environmental management performance in Federal agencies and facilities. The program shall consist of two components that challenge Federal agencies: (a) to agree to a code of environmental principles to be developed by EPA, in cooperation with other agencies, that emphasizes pollution prevention, sustainable development and state-of-the-art environmental management programs, and (b) to submit applications to EPA for individual Federal agency facilities for recognition as "Model Installations." The program shall also include a means for recognizing individual Federal employees who demonstrate outstanding leadership in pollution prevention.

Sec 5–5. *Compliance.*

5-501. By December 31,1993, the head of each Federal agency shall provide the Administrator with a preliminary list of facilities that potentially meet the requirements for reporting under the threshold provisions of EPCRA, PPA, and this order.

5-502. The head of each Federal agency is responsible for ensuring that such agency take all necessary actions to prevent pollution in accordance with this order, and for that agency's compliance with the provisions of EPCRA and PPA. Compliance with EPCRA and PPA means compliance with the same substantive, procedural, and other statutory and regulatory requirements that would apply to a private person. Nothing in this order shall be construed as making the provisions of sections 325 and 326 of EPCRA applicable to any Federal agency or facility, except to the extent that such Federal agency or facility would independently be subject to such provisions. EPA shall consult with Federal agencies, if requested, to determine the applicability of this order to particular agency facilities.

5-503. Each Federal agency subject to this order shall conduct internal reviews and audits, and take such other steps, as may be necessary to monitor compliance with sections 3-304 and 3-305 of this order.

5-504. The Administrator, in consultation with the heads of Federal agencies, may conduct such reviews and inspections as may be necessary to monitor compliance with sections 3-304 and 3-305 of this order. Except as excluded under section 6–601 of this order, all Federal agencies are encouraged to cooperate fully with the efforts of the Administrator to ensure compliance with sections 3-304 and 3-305 of this order.

5-505. Federal agencies are further encouraged to comply with all state and local right-to-know and pollution prevention requirements to the extent that compliance with such laws and requirements is not otherwise already mandated.

5-506. Whenever the Administrator notifies a Federal agency that it is not in compliance with an applicable provision of this order, the Federal agency shall achieve compliance as promptly as is practicable.

5-507. The EPA shall report annually to tho President on Federal agency compliance with the provisions of section 3-304 of this order.

5-508. To the extent permitted by law and unless such documentation is withheld pursuant to section 6–601 of this order, the public shall be afforded ready access to all strategies, plans, and reports required to be prepared by Federal agencies under this order by the agency preparing the strategy, plan, or report. When the reports are submitted to EPA, EPA shall compile the strategies, plans, and reports and make them publicly available as well. Federal agencies are encouraged to provide such strategies, plans, and reports to the State and local authorities where their facilities are located for an additional point of access to the public.

Sec. 6-6. *Exemption.*

6–601. In the interest of national security, the head of a Federal agency may request from the President an exemption from complying with the provisions of any or all aspects of this order for particular Federal agency facilities, provided that the procedures set forth in section 120(j)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. 9620(j)(1)), are followed. To the maximum extent practicable, and without compromising national security, all Federal agencies shall strive to comply with the purposes, goals, and implementation steps set forth in this order.

Sec. 7-7. *General Provisions.*

7-701. Nothing in this order shall create any right or benefit, substantive or procedural, enforceable by a party against the United States, its agencies or instrumentalities, its officers or employees, or any other person.

William J. Clinton

THE WHITE HOUSE,

August 3, 1993.

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