UNITED STATES POSTAL SERVICE

POLLUTION PREVENTION

Handbook AS-552 August 1996

A. Purpose

Postal Service Commitment. The Postal Service is committed to implementing a nationwide environmental protection policy and ensuring cost-effective compliance with federal, state, and local environmental regulations. An important concept for achieving compliance with respect to all environmental programs is pollution prevention. All facilities are encouraged to actively identify and implement pollution prevention opportunities to minimize and eliminate, to the extent possible, environmental risks.

B. Contents. This handbook has been developed as an aide for developing and implementing a pollution prevention plan at postal facilities. It replaced Handbook AS-552, Waste Reduction, February 1992. This handbook provides an overall understanding of what pollution prevention is, the importance of it, and instruction on how to implement a pollution prevention program at the facility level.

The information in this handbook has been gathered from federal regulations, current guidance, and Postal Service policy in order to provide an overall understanding and a solid foundation for promoting pollution prevention and to establish the Postal Service as a leader with respect to environmental issues.

C. Revisions. This handbook will be revised to modify pollution prevention policies and strategies as needed to reflect new legislation and regulations.

D. Distribution

1. **Initial.** This document is being distributed to all Headquarters functions, area offices, customer service districts, processing and distribution facilities, and Cost Ascertainment Groups (CAG).

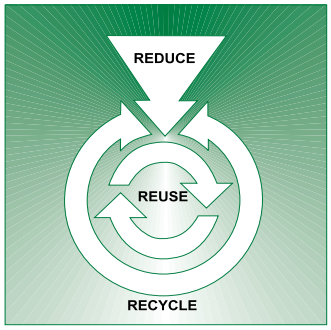
2. **Additional Copies.** Organizations not included in the initial distribution or those requiring additional copies should order copies from their material distribution center (MDC) using Form 7380, MDC Supply Requisition.

E. Comments and Questions. If you need further clarification of the policies and procedures outlined in this handbook, send your request to:

MANAGER
ENVIRONMENTAL MANAGEMENT POLICY
UNITED STATES POSTAL SERVICE
475 L'ENFANT PLAZA SW RM 6830
WASHINGTON DC 20260-2810
(202) 268-5595

F. Effective Date. These instructions are effective immediately.

William J. Dowling
Vice President
Engineering



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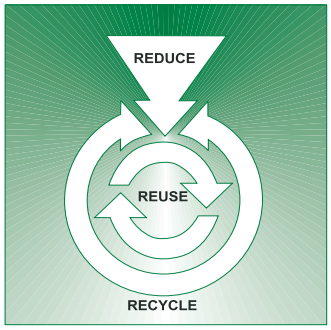


1. Introduction

1.1 Introduction

This handbook, *Pollution Prevention Guide*, has been developed by the United States Postal Service as an aide for developing and implementing a pollution prevention plan at postal facilities. It replaces Handbook AS-552, *Waste Reduction,* February 1992. This handbook provides an overall understanding of what pollution prevention is, the importance of it, and instruction on how to implement a pollution prevention program at the facility level.

The Postal Service has made pollution prevention a national priority.

The information in this handbook has been gathered from federal regulations, current guidance, and Postal Service policy in order to provide an overall understanding and a solid foundation for promoting pollution prevention and to establish the Postal Service as a leader with respect to environmental issues.

"We will foster the sustainable use of natural resources by promoting pollution prevention, reducing waste, recycling and reusing materials."

Postmaster General

1.2 What is Pollution Prevention?

It is necessary to know what *pollution prevention* means in order to understand why it is important. Pollution prevention is any practice that reduces the amount of a hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) before recycling, treatment, or disposal; and/or any practice that reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants. Pollution prevention focuses on the use of materials, processes, or practices that

eliminate or reduce the quantity and toxicity of wastes at the source of generation. Thus, pollution prevention reduces the generation of hazardous and solid waste by focusing on the front end of the process and the inputs. By focusing on source reduction, pollution prevention is one of the most effective methods of protecting and preserving our natural resources.

Pollution prevention is reducing the generation of hazardous and solid waste at the source through:

- *Product substitution*
- *Process change*
- *Improved operations and maintenance*
- *Improved housekeeping*
- *Improved inventory control*

Conventional approaches to hazardous substance and waste management have been called *pollution control* policies because they attempt to control the release of pollutants—substances that have already been sacrificed as waste. The focus of pollution control practices has typically been on end-of-pipe or end-of-process solutions. Pollution prevention policies, on the other hand, focus on preventing the release of contaminants and waste by reducing the generation of wastes at the outset. *Pollution prevention* involves looking for less hazardous products or a change in existing processes that results in a decrease in the generation of hazardous and solid waste and subsequent pollution to the environment.

1.2.1 Waste Reduction Hierarchy

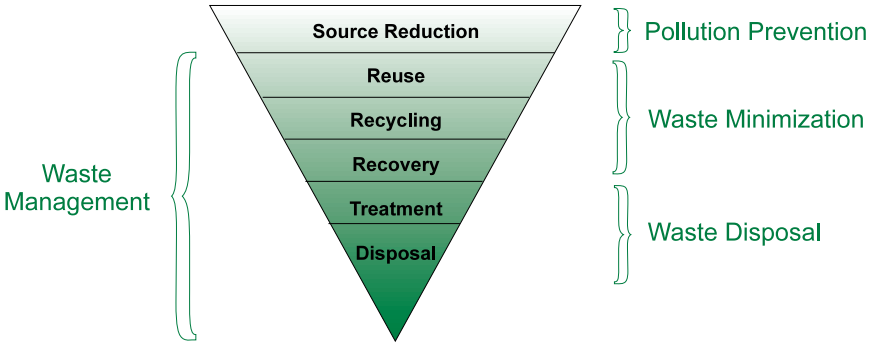
As shown on the hierarchy triangle in Figure 1-1, waste reduction in the form of source reduction is identified as pollution prevention. It is also the preferred option in the Postal Service for reducing the generation of hazardous and solid waste because it results in efficiency, cost reduction, and environmental compliance.

Pollution prevention through source reduction is the preferable option for reducing the generation of hazardous and solid waste.

The options below source reduction — reuse, recycling, recovery, treatment and disposal are options that deal with waste after it has been generated and do not meet the definition of pollution prevention. These are the less preferable choices for reducing the generation of hazardous and solid waste, but they are still important and need to be considered after pollution prevention. Waste minimization is an important option to further limit pollution from hazardous and solid waste where pollution prevention options are not yet available or do not completely eliminate the generation of hazardous or solid waste.

Proper treatment and disposal are not considered options for *reducing* waste but rather are a regulatory requirement for hazardous waste and proper disposal for solid waste.

Figure 1-1. Priorities in Waste Reduction



Source Reduction is Pollution Prevention

Pollution Prevention is the preferred method for waste reduction.

1.2.2 Evolution of Pollution Prevention

To provide some insight into why interest in pollution prevention has been raised to a national level, it is necessary to understand the evolution of pollution prevention itself. During the past 40 years, the volume of hazardous and solid waste generated in the United States has continued to increase unabated. The U.S. Environmental Protection Agency (EPA) estimates that at the close of World War II, the nation generated about one billion pounds of hazardous waste alone per year. By 1987, that number had grown to 22 billion pounds. In 1976, the EPA issued a policy statement making the reduction of hazardous and solid waste at the source the highest priority of the agency's policies. In 1986, a report was issued by the U.S. Congressional Office of Technology Assessment titled *Serious Reduction of Hazardous Waste.* The report provided one of the first definitions of pollution prevention in the following statement:

1 billion lbs. hazardous waste

22 billion lbs. hazardous waste

> *...in-plant practices that reduce, avoid or eliminate the generation of hazardous waste so as to reduce risks to health and environment. Actions that take away from the waste generating activity, including waste recycling or treatment of wastes after they are generated, are not considered waste reduction. Also, an action that merely concentrates the hazardous content of a waste to reduce waste volume or dilutes it to reduce the degree of hazard is not considered waste reduction. This definition is meant to be consistent with the goal of preventing the generation of waste at its source rather than controlling, treating or managing waste after its generation.*

Waste minimization options such as recycling and reuse have typically focused on "end-of-the-pipe" solutions.

Federal Laws

Pollution Prevention Act of 1990 — In 1990, Congress passed the Pollution Prevention Act to establish an administrative base and information-tracking capacity for pollution prevention at the EPA. The EPA, in turn, created a special Office of Pollution Prevention and a Pollution Prevention Information Clearinghouse. The Pollution Prevention Act of 1990 clearly established 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."

Pollution Prevention Act of 1990 establishes pollution prevention as a national policy.

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.

The Federal Facilities Compliance Act requires all federal facilities to comply with all applicable hazardous waste federal, state and local laws and regulations.

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).

Although it is not a federal facility or federal agency, the Postal Service has made it a national policy to comply with all applicable environmental laws and regulations, where feasible.

Executive Orders

To promote pollution prevention as the preferred environmental management technique throughout the federal government, the President has issued several executive orders (E.O.'s) that 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 translate into various requirements that should be considered when developing and implementing a pollution prevention plan. The general requirements for these key executive orders are summarized in Figure 1-2.

Executive Orders (E.O.s) are issued through the President of the United States. Although not a regulatory requirement, the executive orders do establish important federal policy.

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

This order is considered one of the most important milestones in federal pollution prevention activities. The executive order 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, the executive order requires the facilities to develop facility-specific pollution prevention programs.

E.O. 12856 is the most important executive order in pollution prevention and establishes specific goals for federal agencies.

Executive Order 12873—Acquisition, Recycling, and Waste Prevention

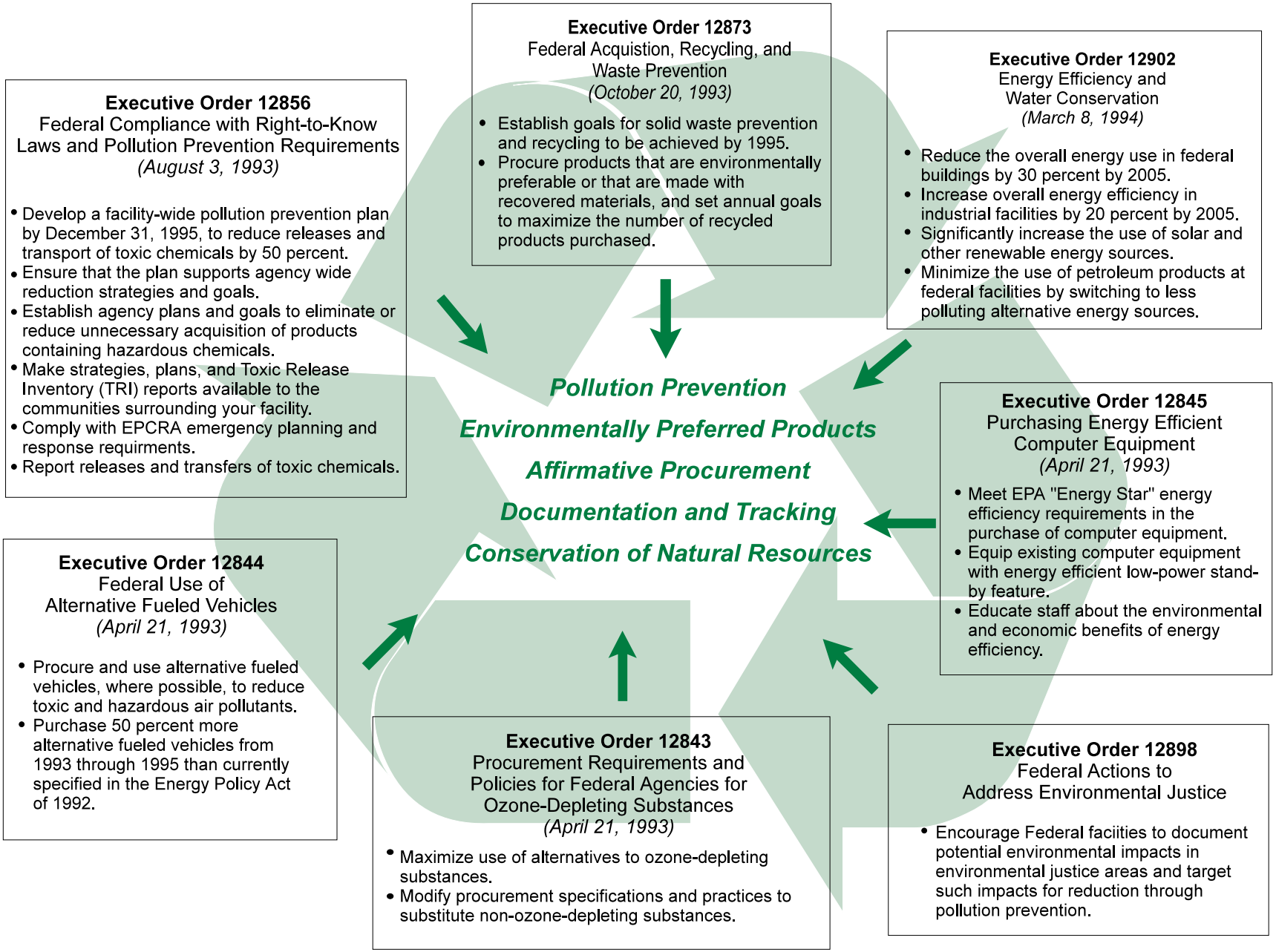
E.O. 12873 directs federal agencies and facilities to implement acquisition programs aimed at encouraging new technologies and building markets for environmentally preferable and recycled products.

E.O. 12873 calls for affirmative procurement practices. Without affirmative procurement, pollution prevention cannot be realized.

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

These executive orders commit the federal government to accelerated action on phasing out ozone-depleting substances, purchasing alternative fueled vehicles, and buying energy-efficient computers.

Figure 1-2. Requirements of Key Executive Orders



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

E.O. 12898 applies to those federal agencies that are: (1) subject to the reporting requirements of EPCRA; and (2) are expected to have a substantial environmental, human health, or economic effect on surrounding populations. These agencies are required, whenever practicable and appropriate, to collect, maintain, and analyze information on the race, national origin, income level, and other readily accessible and appropriate information concerning areas surrounding the federal facility. Because this executive order applies to those facilities which pose an environmental threat to the surrounding area, it provides those facilities subject to the executive order with an incentive to reduce the amount and toxicity of the waste produced by the facility. Implementation of an effective pollution prevention plan at such a facility could ultimately reduce waste to the point that the facility is no longer subject to this executive order.

Other executive orders call for the phase out of ozone-depleting substances (ODSs), the purchase of energy -efficient equipment, and the consideration of environmental impacts to minority and low-income populations

State Laws

States have promoted pollution prevention as a means to improve environmental management approaches since the early 1980s. 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 Executive Order 12856, Section 5-505, 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.

Contact the state agency to obtain information on state pollution prevention or toxics use legislation and requirements.

1.3 Why the Postal Service Is Involved in Pollution Prevention

Over the past decade, the emphasis on evaluating and implementing pollution prevention practices in industry and government agencies alike has increased substantially. One reason for this is the increasing costs and environmental and health and safety liabilities associated with the on-site generation and storage, and off-site transportation, treatment, and disposal of hazardous waste. Other factors associated with hazardous waste disposal are the negative

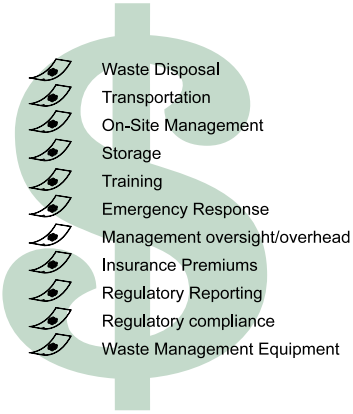
Benefits outweigh costs associated with pollution prevention.

impacts to the environment, such as contamination of drinking water and destruction of wildlife. These negative impacts also translate to substantial costs.

Pollution prevention is a requirement for federal facilities and agencies.

In addition, federal and state laws and regulations and presidential executive orders have called for the development, implementation, and tracking of pollution prevention practices in the United States. Executive Order 12856 specifically calls for the development of a pollution prevention program and establishes goals for all federal facilities.

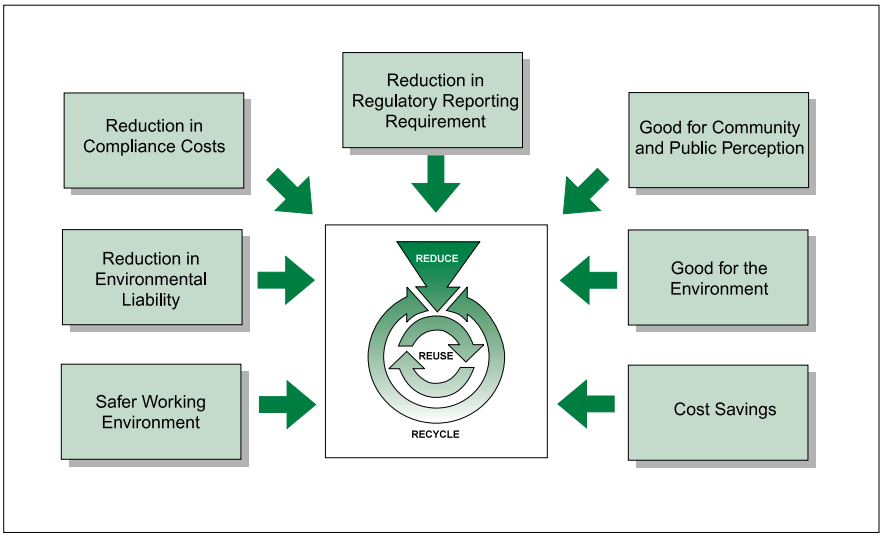
Costs Associated with Existing Pollution / Waste Management



Pollution prevention is a proven means to reduce or eliminate costs associated with waste management, reduce negative impacts to the environment, and improve work environments. The reduction of hazardous or solid waste or the reduction in the toxicity of waste being generated translates to a reduction in fees associated with transportation and disposal of waste, reduction in waste materials entering in and negatively impacting the environment, reduction in time spent by employees managing, and reduction of the liability of employees being exposed to the waste materials. Simply put, waste reduction means reduction in costs, management time, and liabilities.

Figure 1-3. Benefits of Pollution Prevention

The Postal Service has determined that pollution prevention makes good business sense.



Based on the benefits associated with pollution prevention (summarized in Figure 1-3) and the federal executive orders and laws, the Postal Service has made a commitment to evaluate and implement pollution prevention practices where practicable and feasible. As part of this commitment, the Postal Service has developed a National Pollution Prevention Strategy. This strategy is described in Section 2.

1.4 Why Everyone Is an Important Part of the Program

At the facility level, it is important to have as part of the pollution prevention team those facility personnel who play a key role in decision making, purchasing, and who are responsible for developing and implementing procedures. Also, it is important for every facility member to be aware of the program, why it is important, and how it relates to day-to-day operations. Without raising the awareness level of all personnel, the reason and need to use one type of cleaner over another one, for example, is not conveyed; and therefore, the pollution prevention practices are not carried forward.

__ALL__ employees are important to the pollution prevention program.

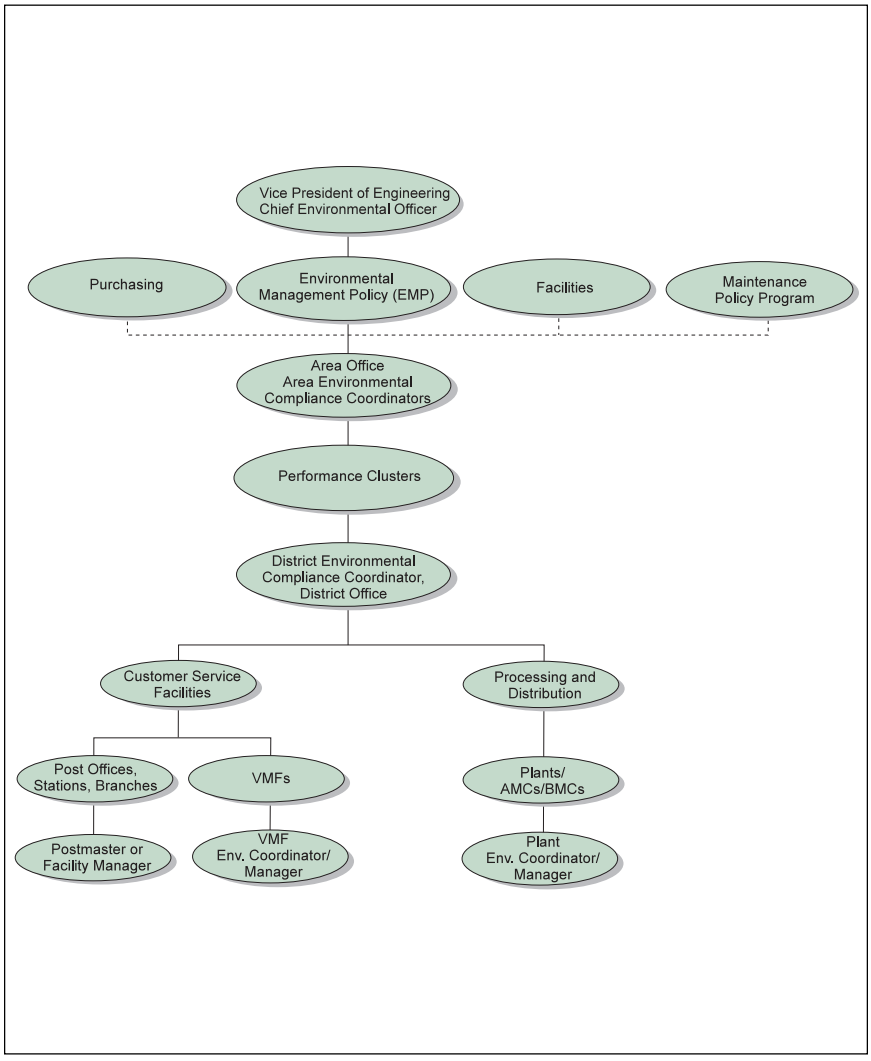
At the national level, all personnel who have authority to purchase products, equipment, or facilities must be made aware of the pollution prevention priorities, and before any decision making, evaluate how the decision will affect the generation of hazardous and solid waste. Although executives and managers assign priorities and set the tone for the pollution prevention program, the attitude and acceptance of pollution prevention initiatives by craft employees have a significant effect on the program's success. Since it is these employees whose daily activities generate waste, their support of the program is essential. It is important that all personnel, at the facility and national levels, be aware of their roles and responsibilities with respect to the pollution prevention program.

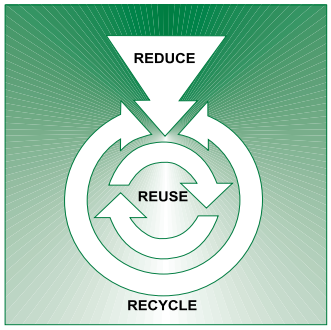
1.5 Description of Environmental Management Within the Postal Service

The Postal Service has established an effective environmental management structure. Every level of management has responsibilities for pollution prevention.

The following is a basic description of the Postal Service's roles and responsibilities for pollution prevention. As directed by the Chief Environmental Officer, Environmental Management Policy (EMP), is responsible for developing the National Pollution Prevention Strategy and Handbook and for providing financial and technical assistance to the area offices to assist in establishing pollution prevention programs. The area offices then set the priorities for the district offices and district offices work closely with the individual facilities to facilitate implementation of the facility's pollution prevention plan. Figure 1-4 shows the basic environmental management structure of the Postal Service.

Figure 1-4. Environmental Management Structure





2. Strategy and Goals

2.1 Summary of USPS Pollution Prevention Strategy

The Postal Service National Environmental Policy Statement provides the cornerstone for establishing pollution prevention as a national goal and is demonstrated in the management's commitment to pollution prevention. The policy, shown in Figure 2-1, states that:

> *The United States Postal Service is committed to provide employees and customers with a safe and healthy environment. Environmental protection is the responsible thing to do and makes for sound business practices.*
>
> *We will foster the sustainable use of natural resources by promoting pollution prevention, reducing waste, recycling, and reusing materials.*

The Postal Service is committed to fostering the sustainable use of natural resources by promoting pollution prevention.

The Postal Service has developed a Pollution Prevention Strategy at the national level to encourage compliance with the requirements of Executive Orders 12856 and 12873, and with the Pollution Prevention Act of 1990 which calls for all federal agencies to develop a pollution prevention program and establish specific goals. Furthermore, the Postal Service is actively promoting the development of effective programs to purchase environmentally preferable and recycled products in accordance with Executive Order 12873. This

Figure 2-1. United States Postal Service Policy for Environmental Protection

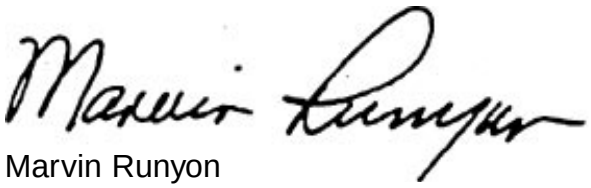
UNITED STATES POSTAL SERVICE POLICY FOR ENVIRONMENTAL PROTECTION

POLICY

The United States Postal Service is committed to provide employees and customers with a safe and healthy environment. Environmental protection is the responsible thing to do, and makes for sound business practices.

GUIDING PRINCIPLES

- We will meet or exceed all applicable environmental laws and regulations in a cost-effective manner
- We will incorporate environmental considerations into our business planning processes.
- We will foster the sustainable use of natural resources by promoting pollution prevention, reducing waste, recycling, and reusing materials.
- We will expect every employee to take ownership and responsibility for our environmental objectives.
- We will work with customers to address mutual environmental concerns.
- We will measure our progress in protecting the environment.
- We will encourage suppliers, vendors, and contractors to comply with similar environmental protection policies.



Marvin Runyon
Postmaster General

two-goal environmental strategy strives to have all postal facilities in compliance with federal, state, and local laws and regulations, and to establish the Postal Service as a leading organization in the country on environmental issues.

The Postal Service is committed to reducing waste and pollutants at the source of generation by:

- Encouraging the use of nonpolluting technologies and waste minimization.
- Protecting natural resources and the environment through conservation, recycling, and reuse of material internally and externally.
- Including environmental considerations among the criteria by which projects, products, processes and purchases are evaluated.
- Developing environmental responsibilities and awareness in postal employees.
- Maintaining an environmental quality assurance program.

The Postal Service's National Strategy complies with E.O.'s 12856 and 12873, and the Pollution Prevention Act of 1990.

2.2 National Goals

Based on the commitment to reduce the generation of waste through source reduction, the Postal Service has developed the following goals as part of the National Pollution Prevention Strategy:

- Virtually eliminate the generation of hazardous waste by 1998, where feasible.
- Virtually eliminate the use of the 17 hazardous chemicals identified by the EPA by 1998, where feasible.
- Continue and expand the ongoing program to evaluate and use non-hazardous chemicals.
- Continue and expand the use of innovative technologies for waste minimization and where pollution prevention options do not yet exist.
- Continue and expand reuse and recycling of all remaining waste streams.

Pollution Prevention Goals

- Virtually eliminate hazardous waste.
- Virtually eliminate use of toxic/ hazardous chemicals.
- Evaluate and use non hazardous chemicals.
- Use innovative technologies for waste minimization.
- Reuse and recycle all waste streams.

Give it your best shot!

To achieve these goals, the Postal Service's Pollution Prevention Strategy focuses on instilling pollution prevention in the corporate culture through education, training, incentives, and communication systems.

EPA's goal is to reduce the use of these 17 toxic chemicals by 50 percent by the end of 1995.

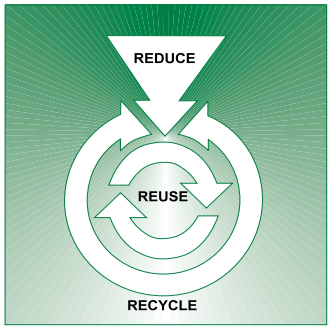
As part of the National Strategy for Pollution Prevention, the Postal Service has made a national commitment to virtually eliminate the use of these 17 chemicals by 1998.

EPA has established a voluntary program to reduce releases and off-site transfers of 17 toxic chemicals, listed below. The EPA's initial goal was to reduce the use of these substances by 50 percent by the end of 1995. As part of the National Strategy for Pollution Prevention, the Postal Service has made a national commitment to virtually eliminate the use of these chemicals by 1998. Postal facilities use products that contain approximately nine of these targeted chemicals and must make significant reductions to reach the 1998 goal. Examples of products containing these chemicals appear in parentheses:

- Benzene (*in gasoline*)
- Cadmium and Cadmium Compounds (*paints, metal grindings*)
- Carbon Tetrachloride (*laboratory chemical, rubber manufacturing*)
- Chloroform (*cleaner*)
- Chromium and Chromium Compounds
- Cyanide and Cyanide Compounds (*metal plating*)
- Lead and Lead Compounds (*lead seals, solders, paints*)
- Mercury and Mercury Compounds (*thermometers, light ballasts*)
- Methylene Chloride (*paint stripper*)
- Methyl Ethyl Ketone (*paints and solvents*)
- Methyl Isobutyl Ketone (*paints and solvents*)
- Nickel and Nickel Compounds (*metal plating*)
- Tetrachloroethylene (*equipment cleaner, degreaser*)
- Toluene (*equipment cleaner, degreaser*)
- 1,1,1-Trichloroethane (TCA) (*electrical equipment cleaner*)
- Trichloroethylene (TCE) (*equipment cleaner*)
- Xylenes (*paints*)

With the elimination of the 17 chemicals, there is a need to continue and expand the ongoing program to evaluate and use non hazardous chemicals.

Appendix E provides a detailed list of all 17 chemicals, related compounds (where applicable), and CAS numbers. This list can be used to assist in the identification of possible hazardous products.



3. Purchasing

3.1 Pollution Prevention Through Purchasing

Purchasing is one of the more important elements to an effective pollution prevention program. If purchasing activities are not controlled through the pollution prevention process, the goals identified at the outset will not be realized. In addition to being directly linked to pollution prevention, affirmative procurement is a requirement under Section 6002 of RCRA and is called for in Executive Orders 12856 and 12873. All personnel must be made aware of the types of products that should be purchased.

Be aware of the types of products to purchase.

This section provides a summary of what affirmative procurement and related products are and how those products are identified and evaluated.

3.2 What is Affirmative Procurement?

Affirmative procurement is the active acquisition of recycled and environmentally preferable products in order to reduce and replace the use of virgin materials and toxic substances.

"Affirmative Procurement" *is the active acquisition of recycled and environmentally preferable products in order to reduce and replace the use of virgin materials and toxic substances.*

3.2.1 What is an Environmentally Preferable Product?

Products or services that have a lesser or reduced effect on human health and the environment when compared with competing prod-

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

ucts or services that serve the same purpose are considered environmentally preferable. An example of an environmentally preferable product is one that is non-toxic, does not harm the environment, and in many cases is made with recycled materials. The main idea behind source reduction is that, wherever possible, the use of toxic substances or products not having any recycled content are replaced with environmentally preferable products. Some specific examples include:

Environmentally preferable products include products with:
- *None of the 17 chemicals*
- *No ODSs*
- *Recycled content*

- Products that do not contain any of the 17 targeted chemicals.
- Products with no ozone depleting substances (ODSs).
- Products that contain increased percentage of recycled content and that are readily recyclable.

3.2.2 What is a Recycled Product?

A recycled product is one that consists of materials derived from post-consumer waste, industrial scrap, material derived from agricultural wastes or other items. Some examples of recycled products include:

"Recycled Product"
Materials derived from post-consumer waste, industrial scrap, material derived from agricultural wastes or other items

- Rerefined oil.
- Retread tires.
- Cardboard products (boxes).
- Shipping material (packaging peanuts, shredded paper, soft packaging fill).
- White office paper (computer paper, copy machine paper).
- Plastic containers (industrial, bulk storage, hauling).
- Kitchen supplies (paper plates, disposable cups, plastic flatware).
- Tissue products (paper towels, napkins, tissues, toilet paper).

Environmentally preferable products can be identified by consulting:
- *MSDSs*
- *USPS Technical Reference Manual*
- *GSA*
- *Defense General Supply Center*

3.3 Sources for Identifying Environmentally Preferable Products

Several methods and sources are available to identify environmentally preferable product and service options including product information contained in MSDSs, government purchasing services, and the Postal Service's Technical Reference Manual. These sources are summarized below.

3.3.1 Materials Safety Data Sheets (MSDSs)

The fact that you can buy something at a store does not mean the product is safe! It is important to read the label and check the contents of products before purchasing them. A Material Safety Data Sheet (MSDS) must be obtained and reviewed prior to the purchase of every product, whether the product is purchased at a hardware store or supermarket, or ordered from the General Services Administration. Consult MI EL-810-96-2, *Hazard Communication Programs* for details on the OSHA regulation.

Review of the MSDS is a good first step in determining the contents of products being evaluated for purchase.

Product manufacturers are required by law to provide MSDSs. Many companies offer toll free (800) numbers to request MSDSs. Although the format of information presented in the MSDS varies with each manufacturer, OSHA requires all of the following items to be included in the MSDS:

- Identity of chemicals presenting physical or chemical hazards.
- Physical and chemical characteristics of the hazardous chemical (e.g., vapor pressure, flash point, solubility).
- Physical hazards (e.g., reactivity, explosibility, fire potential).
- Health hazards (e.g., signs and symptoms of illness, precautionary medical conditions).
- Primary routes of entry into the body.
- Permissible exposure limits (OSHA, ACGIH).
- Whether the chemical is a carcinogen.
- Precautions necessary for safe use.
- Control measures necessary to protect against the hazards (e.g., protective equipment, work practices).
- Emergency and first aid procedures.
- Date the MSDS was prepared.
- Name, address, and telephone number of person responsible for the MSDS.

It is important to note that manufacturers of products that are mixtures are not required to include in the MSDS information on ingredients that have been determined to be health hazards if they make up less than 1 percent (0.1 percent for carcinogens) of the product. Therefore, not all ingredients may be listed in the MSDS if they make up less than 1 percent (or 0.1 percent for carcinogens) of the product.

Be aware that the manufacturer is not required to include information on ingredients that make up less than 1 percent (0.1 percent for carcinogens) of the product.

Section II of the MSDS typically lists the hazardous ingredients contained in the product.

Review of the MSDS is the first step in determining which chemicals are in a product. Section II of the MSDS typically contains the list of hazardous ingredients. This list should be compared to the list of the 17 chemicals targeted by the EPA. If any of the 17 chemicals are present, alternatives to the product should be evaluated. Similarly, if the product contains any ozone, a substitute product should be evaluated. Be aware that MSDSs may not always contain all of the information available about the product. If there is a question about a product or information in the MSDS is incomplete, the manufacturer should be contacted.

3.3.2 Pollution Prevention Technical Reference Manual

Don't Reinvent the Wheel!
The Postal Service's Pollution Prevention Technical Reference Manual contains information on studies, assessments, and reviews conducted by Postal Service facilities on products, services, and processes.

The Postal Service provides several sources for identifying environmentally preferable products and services. One such source is the Pollution Prevention Technical Reference Manual which is a compilation of current pollution prevention and waste minimization studies and assessments. The manual provides detailed information on which products were evaluated, the evaluation methods, and results. Every postal employee is encouraged to submit information on any product or service evaluations or assessments for incorporation into the manual. The manual is updated on a regular basis and updates are provided to the district environmental compliance coordinators. Summaries of the evaluations are provided to every VMF, plant, and post office. Current pollution prevention summary sheets are contained in Appendix C.

3.3.3 Government Purchasing Services

GSA and DSCR have information on environmentally preferable products.

Purchasing services are available through the federal government that identify and provide information on environmentally preferable products and services.

General Services Administration

One source available to assist in identifying environmentally preferable products is the General Services Administration (GSA). The GSA is aggressively pursuing affirmative procurement of environmentally preferable products. GSA ordering services are an excellent resource for information and guidance on how to reduce purchases of targeted chemicals and meet product procurement goals. The following is some important information regarding GSA:

- GSA publishes several useful guides to assist in product selection. GSA's Environmental Products Guide (RCPG-0001, formerly Recycled Products Guide) lists environmentally preferable products, consistent with Executive Order 12873's recycled content standards (contact GSA's Centralized Mailing List Service in Fort Worth, Texas (817) 334-5215) or on the Internet at HTTP://www.GSA.gov. "Marketips" is a guide that identifies new products as well as the availability and location of training workshops on buying environmentally preferable products.

GSA provides the following documents/services:

- *Environmental Products Guide*
- *Marketips guide*
- *MSDS's*
- *Commercial cleaning products line*
- *DS's replacement*
- *Postal Service approved mailbox paints*

- Copies of Material Safety Data Sheets (MSDSs) for products ordered from GSA are available through their Fast Action Safety Data Transmission (FAST) system (computer database number: (703)-305-6360).

- GSA has an expanded line of commercial cleaning products that are designed to meet EPA standards, and include water based products that are non-toxic, phosphate free, and nonflammable. Brochures are available from GSA on the different product lines.

- GSA can assist in identifying and finding replacements for products containing ozone depleting substances (ODSs).

- GSA carries Postal Service approved, environmentally compliant paints for collection boxes and centralized delivery equipment.

Defense Supply Center, Richmond

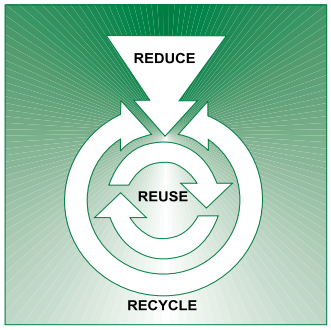
The Defense Supply Center, Richmond (DCSR) of the Defense Logistics Agency (DLA) distributes the Environmentally Preferred Products Catalog. The catalog lists hundreds of environmentally preferable products. It may be obtained through the DSCR Richmond, Virginia Office (800) 848-4847or on the Internet at HTTP://www.DSCR.DLA.mil.

DCSR provides an Environmentally Preferred Product Catalog.

3.4 Evaluation of Products and Services

Once an environmentally preferable product or service is identified, it needs to be evaluated to determine if it is feasible that it be implemented at the facility. The feasibility evaluation of a product or service takes into account a number of criteria including regulatory, technical, financial and environmental factors. Using these criteria, a proposed product or service is compared to existing and other proposed products or services to identify the best pollution prevention option for the facility.

The process for evaluation and selection is presented in Section 5 of this handbook.



4. Technology Transfer

4.1 Introduction

When developing a pollution prevention program or conducting a PPOA, be aware of and make use of all available information on pollution prevention to avoid reinventing the wheel. Likewise, when a facility achieves success with a particular pollution prevention technology or process modification, it is important to communicate this information to other facilities of the Postal Service. This section provides information on how to obtain and how to share information on pollution prevention technologies and process modifications. Specific pollution prevention references are included in Appendix B.

Be aware of current systems and sources of information available at and through the Postal Service to obtain and communicate information on pollution prevention.

4.2 What is Pollution Prevention Technology?

Pollution prevention technologies include new or modified equipment and process modifications that result in reducing the generation of hazardous waste and pollution at the source of the operation. One example of a pollution prevention technology is the high volume low pressure (HVLP) spray paint gun which significantly reduces the fugitive emissions of VOCs. Other examples include aqueous-based cleaners and electric-powered vehicles.

4.3 How to Share Information

Technology transfer involves the sharing of pollution prevention information throughout the Postal Service. To implement a nation-

Communicate pollution prevention and other waste minimization successes to other Postal Service facilities.

wide pollution prevention policy or program effectively, information regarding alternative products and processes needs to be distributed frequently and efficiently. Any knowledge of new developments, successful programs, upcoming regulations, possible product alternatives and the like can be of great use to managers starting to implement a pollution prevention program in their facility. It is of great benefit and cost savings to share information that could assist these managers in making the process more efficient.

Any pollution prevention or waste minimization study or activity should be documented and kept on record at the facility and submitted for inclusion in the Postal Service's Technical Reference Manual. This provides a written history that may be used to develop other plans or exchanged between facilities. This documentation is important because it helps to identify and eliminate unsuccessful or redundant studies or activities and encourage programs or policies that have been very successful. Information for inclusion in the Technical Reference Manual should be submitted to the district environmental compliance coordinator.

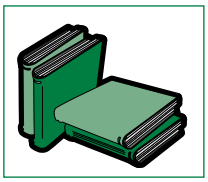
Many different tools are currently available to assist in the transfer of information within the Postal Service. These should be utilized where feasible and appropriate. The faster information is distributed, the more effective it can be in reducing the amount of time and money spent to implement pollution prevention effectively throughout the Postal Service.

4.4 Where to Obtain Information

There are many tools available to obtain and share information on pollution prevention and recycling. The following test describes tools available within the Postal Service to obtain or transfer information on pollution prevention. Appendix B of this Handbook contains additional information sources external to the Postal Service.

It is important to note that information sources external to the Postal Service may not be consistent with Postal Service policies or directives. In addition, there may be a cost associated with the use of certain external sources.

Pollution Prevention Technical Reference Manual



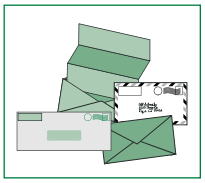
The Postal Service's Pollution Prevention Technical Reference Manual contains a compilation of studies, assessments, and evaluations of environmentally preferable products, technologies, and services conducted by the Postal Service. Every district environmental compliance coordinator has a copy of this manual. It is an excellent reference for how current products, technologies, and services measure up at a variety of postal facilities. Significant studies and evaluations have been summarized in brief pollution prevention summaries that are located in Appendix C of this handbook.

Computer Bulletin Boards

The use of computer bulletin boards is one of the newer methods of technology transfer, but it is also one of the most efficient. If properly used, these boards can make new information readily available to anyone in the United States (and across the globe). Numerous computer accessible bulletin boards are located across the nation. The Postal Service has an environmental bulletin board that provides information and guidance on pollution prevention. Many universities, local and national organizations, EPA, and state agencies also have readily available bulletin boards that are updated continuously. Many bulletin boards provide environmental compliance software which can be downloaded. To access most of these bulletin boards, all you need is a computer, a modem, and the phone number of the bulletin board you wish to reach. As previously noted, information obtained from sources external to the Postal Service may be inconsistent with postal policies and directives.

Postal Service Environmental Bulletin Board (800) 822-9358.

cc:Mail



The Postal Service cc:Mail system is an excellent method of sharing information between facilities. When new pollution prevention options are discovered, brief memos can be sent electronically via cc:Mail to other facility managers and interested parties. An announcement of new opportunities discovered at a facility or of a highly successful project can spark interest and inspire further communication.

Mail

It is recommended that copies of Pollution Prevention Opportunity Assessments and other studies and evaluations be sent via regular mail to other environmental compliance coordinators in the area or across the country. Regular mail is an efficient means for distributing larger documents. Development of a "cc" list of people who may also benefit from this information would be beneficial.

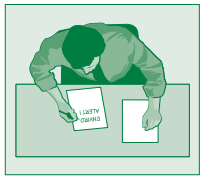
Presentations at Regular Meetings

Meetings that occur on a regular basis both within a specific facility and between facilities provide a perfect opportunity for the exchange of information. Designating speakers at each meeting to communicate current developments and/or ideas on ways to improve pollution prevention will encourage the exchange of ideas and possibly provide insight into problems and/or questions.

Environmental Conferences/Expositions

Conferences provide an excellent opportunity for the exchange and gathering of information between organizations. The people designated to attend a conference should make an effort to communicate the knowledge gained to other members of the Postal Service through many of the methods mentioned in this section.

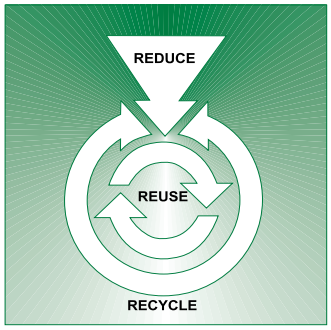
Newsletters



Providing a newsletter either locally or nationwide is a good method of communicating recent environmental developments, either within an individual facility or to other employees of the Postal Service. The newsletter can be written to target only those who are directly involved in environmental compliance, or it can be written as an informative "this is what is happening" newsletter for all employees.

Peer Review Process

The best way to determine if current or proposed programs are effective is to initiate a peer review process. This can be done either within a single facility or nationwide. The purpose of this process is to get various perspectives and input on the effectiveness of the programs being developed. The information gathered in a peer review process may be confidential or it may be conducted like a roundtable discussion.



5. Program Development and Implementation

5.1 Introduction

This section outlines the basic process in developing a pollution prevention plan and establishing an effective pollution prevention program at the facility level. The steps outlined in Section 5.2 for developing a facility-specific plan are consistent with EPA's Facility Pollution Prevention Guide. The facility pollution prevention plan is the cornerstone to the pollution prevention program. The written plan identifies facility-specific information and goals, and directs facility personnel to carry out pollution prevention activities. It is important that each Postal Service facility follow these steps to ensure that a plan is developed, the proper personnel are involved and committed, the objectives and goals are clearly communicated, the resources to maintain the program are available, and there is a mechanism to track the success of the program.

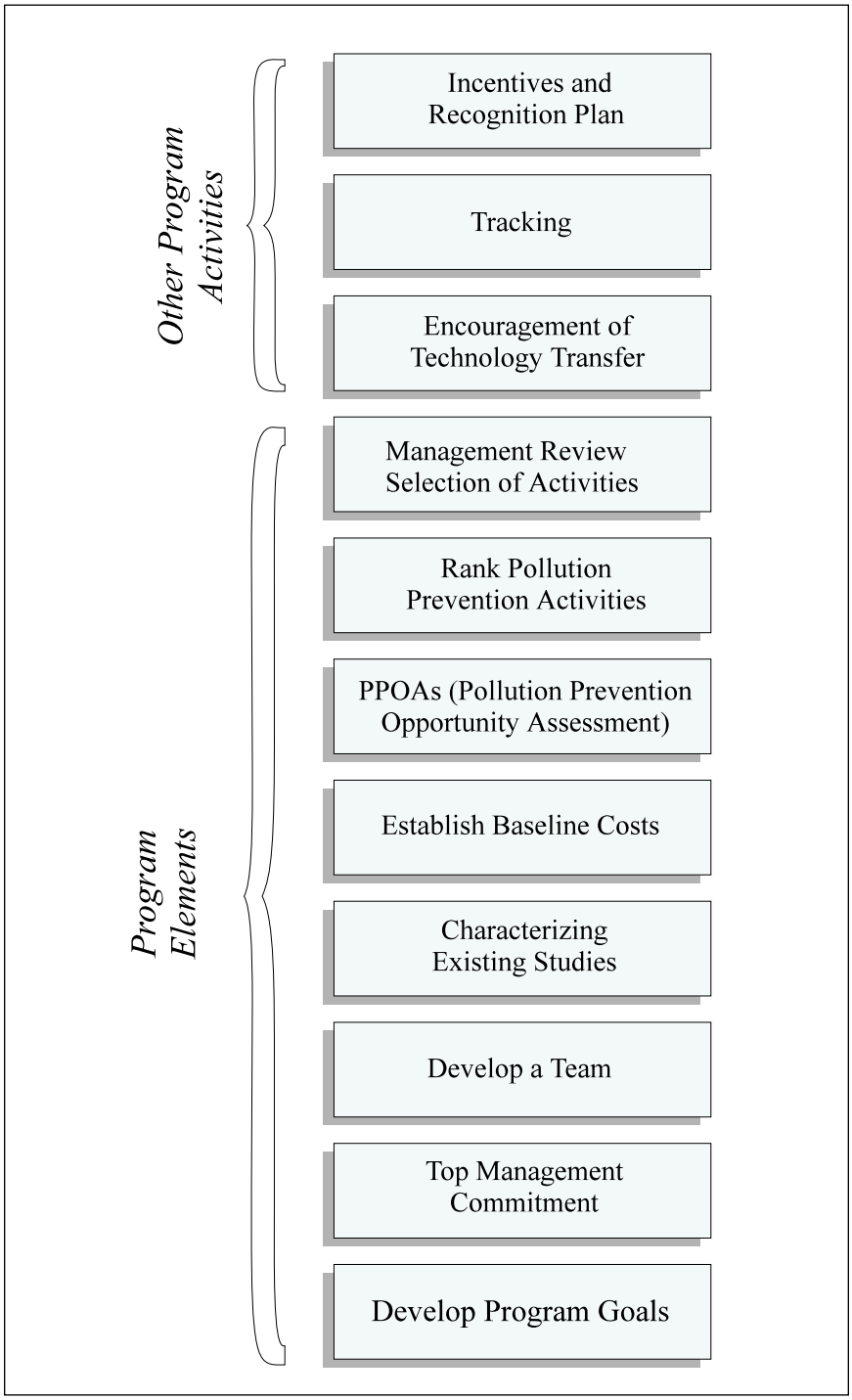
The cornerstone of the pollution prevention program is the EPA's Facility Pollution Prevention Guide.

This handbook provides a minimum framework for establishing facility-specific pollution prevention plans for vehicle maintenance, mail processing and distribution, and administrative office facilities. Appendix D contains fact sheets on hazardous materials and wastes typically used or generated and the potential pollution prevention opportunities for each material. This information is intended to be used in the facility-specific pollution prevention plans. Other aspects of the pollution prevention program are discussed in Section 5.3.

5.2 Pollution Prevention Plan Development

The following summarizes the key steps in developing and implementing an effective pollution prevention plan. Many of these steps have already been accomplished at the national, regional, and facility levels.

Figure 5-1. Steps for Building a Pollution Prevention Program.



5.2.1 Develop Program Goals

Based on Executive Orders 12856 and 12873, and the Pollution Prevention Act of 1990, the Postal Service has identified the development of pollution prevention goals as the first step in developing a nationwide pollution prevention program. The Postal Service's national strategy and goals are summarized in Section 2. The goals are based on the Postal Service's acknowledgment that pollution prevention is not only good for the environment and workers but it is good for business as well.

5.2.2 Top Management Commitment

Before an effort such as the development of a pollution prevention program and plan can be undertaken, it requires the support and commitment of top management personnel (those who have the authority to act without the need for higher levels of review). This requires a commitment on both the national and facility level. Top management personnel must be active participants in the implementation of this program. They must understand the goals of pollution prevention, the reasons for developing a pollution prevention program, and all of the elements associated with such a program. Most important, they must be aware of all the benefits associated with developing and implementing a pollution prevention plan.

The Postal Service is committed to pollution prevention at the national level .

It is only with the support of top management personnel to implement and oversee the various steps associated with developing a pollution prevention program that the program plan can proceed smoothly and efficiently. A commitment has already been made at the national level to promote pollution prevention at all Postal Service facilities. Within each facility, managers must be aware of the importance of the program and be committed to ensuring its success. When the Statement of Commitment, located in the front of the facility-specific plan, is signed by the district/performance cluster manager, the district environmental compliance coordinator and the facility manager, this statement demonstrates the local management commitment to pollution prevention.

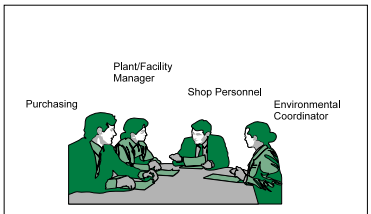
In preparing the facility-specific pollution prevention plan and signing the Commitment Statement, the facility and district managers are pledging their support and commitment to pollution prevention.

5.2.3 Develop a Team

A team that will develop, implement, and track a pollution prevention program is an integral step to the entire process. The people involved on the teams will be the driving force behind the entire program. It is their responsibility to identify pollution prevention

Identify team members in the pollution prevention plan.

opportunities and develop ideas to incorporate the goals of the pollution prevention program. Team members should represent a cross-section of facility personnel with responsibilities and knowledge in the following areas:



Facility Pollution Prevention Team Members

- Facility management
- Purchasing (clerk or store keeper)
- Shop personnel
- Health and safety
- Maintenance management
- Vehicle maintenance
- Environmental coordinator

TEAMS:

- *Ask for staff assistance*
- *Have clearly defined roles*
- *Establish objectives*
- *Conduct annual meetings*

Teams do not necessarily have to support the planning process throughout the entire effort. Facility managers should ask for assistance from staff who understand and operate different processes or departments. These personnel can be a good resource to draw on when characterizing operations and defining pollution prevention options that apply to them. An important element of the team is to have clearly defined roles and objectives. Regular meetings ensure tasks are being done according to a pre-agreed upon schedule. Team members should be identified in the facility's pollution prevention plan.

5.2.4 Characterize and Quantify Existing Activities

Identify and quantify current inputs (products or chemicals) associated with each activity and the resultant waste streams.

This is one of the most important steps in the process. Understanding the facility's activities and determining which activity(s) contributes to the generation of hazardous and solid waste needs to happen before a pollution prevention option can be identified and considered. Characterizing existing activities involves identifying inputs (raw materials or products), the associated activity or operation, and the associated waste streams generated as part of the activity.

To characterize existing activities accurately, the personnel closely associated with each activity should be interviewed. The personnel who work with each process will have the best understanding of it. Characterizing existing activities involves an inventory of all processes, how they function, what chemicals they use, how much chemical is generally used, what wastes are generated as part of the operation activity and in what quantity, and any other pertinent

information that may be useful or available about the activity. Typical activities at VMFs, plants, and post offices, the associated waste streams, and the associated pollution prevention opportunities have already been identified and included in the appropriate facility pollution prevention plan templates. Facilities should review and modify this information as necessary.

Obtain information from:
- *Purchasing records*
- *Annual Waste Management Tracking Report*
- *Personnel interviews*

Information on the types and quantities of hazardous and solid waste produced at the VMFs and plants are currently tracked on the Annual Waste Management Tracking Report. Types and quantities of chemicals or products purchased can be obtained from purchasing and inventory records. After the information is gathered about all activities, an accurate inventory is developed of the areas where opportunities could possibly exist to reduce pollution.

Include current information in pollution prevention plan.

5.2.5 Establish Baseline Costs

This step involves evaluating and building a comprehensive picture of all of the costs associated with all processes within an operation or activity. This is closely linked to the previous step. Baseline costs are necessary in order to compare an existing practice, process or product used to a proposed new process or product.

Identify costs of existing products/operations and associated waste management.

Baseline costs include:

- Cost of purchasing a product or service.
- Labor cost to operate equipment or conduct operation.
- Labor cost associated with management of associated waste stream (time to conduct inspections of waste accumulation areas, manifest, recordkeeping and reporting).
- Cost of transporting or treating disposing of associated hazardous waste.
- Costs associated with energy (power) and water use.

Obtain Baseline Costs From:
- *Annual Waste Management Tracking Report*
- *Purchasing Records*
- *Personnel Interviews (time spent)*

In addition to the obvious costs associated with transportation and disposal, the operational costs of conducting required inspections and maintaining extensive reporting and record keeping systems to comply with hazardous waste management laws and regulations must be assessed. There are future liabilities associated with the management of hazardous waste that are also a part of baseline costs but are difficult to quantify. This is important when evaluating alternative products or processes. Although it is difficult, at best, to assign a cost for present and future liabilities, practices or products

Costs Include:
- *Product or service price*
- *Labor*
- *Waste transportation and disposal*
- *Electricity/water usage*
- *Future liabilities*

Include current information in the pollution prevention plan.

with associated liabilities should be noted. Baseline cost information is obtained through purchasing records, including invoices, the Annual Waste Management Tracking Report, and staff input. Generally, in order to obtain costs associated with labor, the staff who are involved in the specific operations must be interviewed to determine the time they spend managing the hazardous waste generated from the activity and/or product.

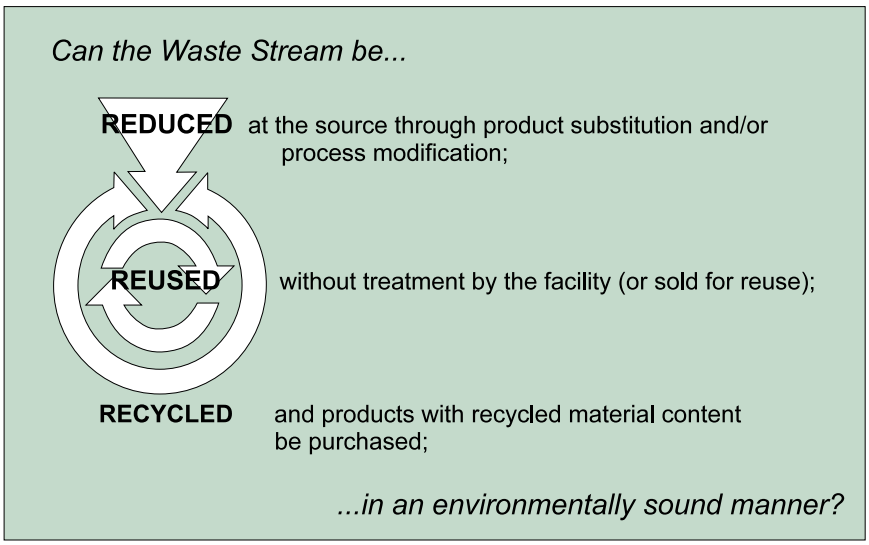
5.2.6 Conduct Pollution Prevention Activities and Opportunity Assessments (PPOAs)

PPOAs identify areas/activities that will benefit from pollution prevention.

Pollution Prevention Opportunity Assessments (PPOAs) are required under Section 3-302(d) of Executive Order 12856. A PPOA involves a review of all process information gathered as a result of the baselining effort in an attempt to identify areas that may benefit from a pollution prevention activity. For example, you may find through a PPOA that an enormous amount of money is being spent on the purchase of virgin motor oil for vehicles. An option for reducing this cost may be to purchase re-refined motor oil for the vehicles. Ideally, for every issue documented under the baseline, a PPOA should identify an activity(s) that will promote pollution prevention. Figure 5-2 shows the hierarchy of questions to ask when conducting a PPOA.

PPOAs have already been developed for typical vehicle maintenance, mail processing and distribution, and post office facilities. This information is contained in the facility pollution prevention plans as well as in Appendix D by material or waste stream. Each facility

Figure 5-2. Pollution Prevention Opportunity Assessments



Identify areas or activities that generate the most hazardous waste, have the highest cost, or are currently not in compliance.

is encouraged to review and use the PPOA information presented in the applicable pollution prevention plan and in Appendix D as a starting point for their facility-specific pollution prevention plans.

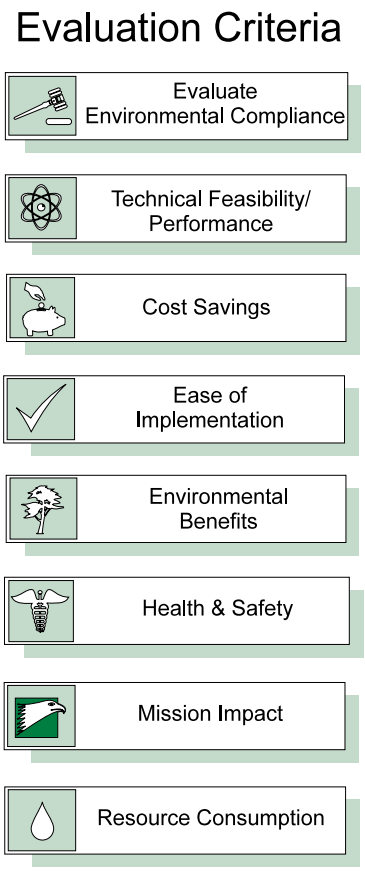
5.2.7 Rank Pollution Prevention Activities

After characterizing and quantifying operations and activities and conducting PPOAs for each activity, an accurate list can be compiled of those operations or activities that are most suitable for pollution prevention activities. The list serves to prioritize which pollution prevention activities will have the most impact and which processes would benefit the most from a pollution prevention activity. As facility operations and activities change, so will the facility's pollution prevention priorities.

Prioritize pollution prevention activities based on:

- *Volume and cost of waste stream.*
- *Regulatory compliance.*
- *Environmental impact.*
- *Mission of Postal Service.*

Priorities should be established based on criteria to include environmental compliance, volume and cost of waste generated, environmental impacts of waste, and the mission or goals of the Postal Service. Any activity or operation not currently in compliance with existing state or federal environmental regulations and/or responsible for generation of the largest volume of hazardous waste is a top priority for pollution prevention. Although some waste streams may not be significant with respect to cost, volume, or compliance, a cost effective pollution prevention option that meets the mission of the Postal Service and may be readily available should be adopted.



5.2.8 Selection of Activities

Once priorities are established, pollution prevention options can be evaluated and selected. Facility-specific priorities should be noted in the facility pollution prevention plan. The selection process compares proposed pollution prevention options with existing operations, products, and services (identified during baseline characterization activities). The following criteria are used to compare proposed options to existing products, processes, or practices as well as other proposed options.

Environmental Compliance

- *Does the option achieve compliance?*
- *Is it allowable under current laws and regulations?*

Environmental Compliance — This requires a review of current federal, state, and local regulations to determine if the option is allowed under existing and proposed regulations. Section 3-301(b) of Executive Order 12856 places special emphasis on identifying and implementing pollution prevention projects that improve or at-

tain compliance. If the option considered will not meet current regulations, the option cannot be considered. Conversely, if the option considered will resolve a current noncompliance area and bring the facility into compliance, the option should be selected.

Technical Feasibility — This involves determining if the option will work effectively with current processes. To test the technical feasibility of a product or service, a sample of the product can be tested at the facility to see if it works as well or better than the current product being used. This is often called a performance evaluation or trial test and is tested over a period of time, typically 1 to 3 months. Before a trial test is conducted, the vendor must also agree to provide the MSDS, in advance, and training on the use of the product or service. The vendor must also agree to remove all remaining product and waste materials if the product or service is not selected. In addition, technical feasibility relies on the product being readily available to the facility. Options that are not able to accomplish the required service or activity should not be considered.

Technical Feasibility

- *Will the option work?*
- *Will it accomplish its intended task?*

Cost Savings — A cost analysis involves comparing the costs associated with the current product or service, i.e., baseline costs, (see Section 5.2.5) against the cost of implementing the proposed option in order to identify potential cost savings. These costs include:

- Cost of any new equipment or conversion of existing equipment (capital cost or set-up cost) (can be shown over a period of several years).

- Cost of new product or material (determine how much is required to be used in a month or year and compare to the monthly and annual costs of the product or material currently being used).

- Time (labor hours) involved in using new material or product and associated management time (compare to the time currently involved in using existing material or product and management time involved in any tracking, manifesting, and arranging for disposal).

Costs to consider include:

- *Capitol Cost*
- *Product Cost*
- *Time*
- *Future Liabilities*

- Cost associated with future liabilities for materials that result in the generation of hazardous waste. Hazardous waste has associated high future environmental liability costs. Materials that will not result in the generation of hazardous waste will have low future environmental liability costs. Similarly, products with no suspected or actual carcinogens or toxic materials will have low liability costs with respect to human health and welfare.

Questions to consider when determining the economic feasibility of an option include:

- What are the additional costs or cost savings of this product?
- Will this product affect future liability?
- Are there fewer tangible or non-monetary costs or benefits?
- What new revenue sources are associated with this option?

Cost Savings

- *Will the option result in an overall reduction in waste management and operational costs?*

Ease of Implementation — Analyzing the cost of ease of implementation requires evaluating the project's technical feasibility along with the initial start-up and installation process. Options that involve complex changes requiring additional staff effort may not be accepted as easily as simpler changes.

Ease of Implementation

- *Can the option be easily integrated into current systems or operations?*

Environmental Benefits — This involves identifying the option's environmental benefits (e.g., air emission reduction, hazardous waste minimization) over existing operations or activities.

Environmental Benefits

- *Does the option result in a reduction of negative environmental impacts?*

Mission Impact — In an analysis of the mission impact, how the option fits with the Postal Service's mission and the ability of the staff to accomplish their mission, including the national goals and strategy is reviewed.

Mission Impact

- *Is the option consistent with the goals of the Postal Service?*

Worker Safety/Exposure — Research should be conducted or reference materials reviewed to determine what the benefits of the option will be on worker safety. Is the product more or less flammable than the current product? Does the product contain less VOCs and, therefore, produce less harmful vapors that workers may breathe in? Will the option reduce worker exposure to waste materials?

Worker Safety/Exposure

- *Does the option improve worker conditions?*

Resource Consumption

- *Does the option decrease the amount of virgin material used?*

Resource Consumption — This criteria involves evaluating the extent to which the option decreases the amount of virgin material used in a particular process. Virgin materials consist of products that contain no recycled content. Virgin materials also include natural resources such as water and energy.

Other criteria that you may consider in evaluating the cost savings include the availability of disposal capacity, community concerns, and anticipation of future regulations.

5.2.9 Selection and Implementation

Present results to management.

Before a pollution prevention plan can be fully implemented and projects can be started, the findings of the team must be presented to management that has the authority to approve and act on policy. Provide a briefing to management on proposed options and request appropriate support to implement the option. Documentation that shows results of ranking pollution prevention opportunities and compares pollution prevention options to current operations and processes should be included in the pollution prevention plan.

Select low-cost, high profile pollution prevention projects to get started.

A good way to get the facility pollution prevention plan implemented quickly is to choose a few low-cost, high-profile pollution prevention projects. Implementing these types of projects from the outset will provide a good starting point as well as serve to motivate both the pollution prevention team and the facility employees. The results of these initial projects will be able to demonstrate the effectiveness of pollution prevention in meeting environmental quality standards and will assist the plan in gaining legitimacy, support, and interest.

5.3 Other Program Activities

Share successes with other Postal Service facilities.

Once the plan has been implemented, the following activities should be conducted on a regular basis to maintain the success of the program.

5.3.1 Encourage Technology Transfer

Provide information on pollution prevention studies and evaluations for inclusion in the Postal Service Technical Reference Manual.

Technology transfer involves the sharing of information throughout the Postal Service. It includes methods such as mail, presentations at meetings, newsletters, computer bulletin boards, etc.

After a pollution prevention program has been successfully implemented at a facility and methods have been developed to track progress, it is imperative that this information be shared throughout the organization. Because pollution prevention is a nationwide initiative by the Postal Service, other facilities will be trying to develop pollution prevention programs. Any beneficial information or advice that may have been gathered from developing individual programs should be communicated via the Technical Reference Manual to other facilities to assist them in developing their own program. Sharing this information is not only helpful for other facilities but it will also serve to save time and money throughout the Postal Service as a whole.

Conversely, when developing a pollution prevention program, it is beneficial to research information from other facilities that may have already completed and implemented their plans.

For more information on methods of technology transfer, refer to Section 4 of this Handbook.

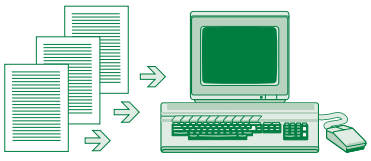
5.3.2 Tracking

To track the progress of the Pollution Prevention Program effectively, it is necessary to conduct an annual survey that will provide an overall summary of yearly activities. The Postal Service's Annual Waste Management Tracking Report (tracked by Fiscal Year) (formerly called the Annual Waste Disposal Survey) provides a guideline and a record to each individual postal facility as well as to the Postal Service as a whole. The questions asked on the annual report form reflect pertinent areas where pollution prevention activities can and may have been implemented. It will seek to identify successes and areas where there could be some improvement. Although these forms are to be filled out only once per year, the information required on the forms must be tracked throughout the year. This means that each facility must develop a system to track what products have entered the facility during the year and how they have exited the facility (i.e., trash, hazardous waste). The initial phase of this tracking process is done as part of a Baseline Characterization and Pollution Prevention Opportunity Assessment (PPOA) that is explained in Section 5.

"We will measure our progress in protecting the environment."

Postmaster General

Data Tracking



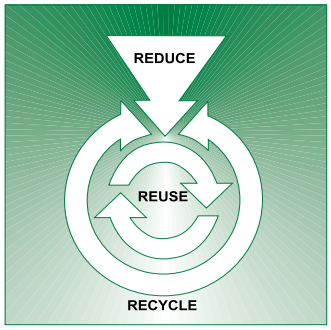
When comparing the reduction of certain waste streams from year to year, it is important to take into account increases, decreases, or changes in operations. For example, if the total number of vehicle services increases from the previous year, the total waste generated may increase while the waste generated per vehicle service may decrease due to implementation of pollution prevention options. Therefore, establishing standard production units (e.g. number of vehicle services, number of pieces of mail processed) will enable you to more accurately measure waste reduction.

Appendix F provides a copy of the Annual Waste Management Tracking Report and also a monthly report form. The monthly report form (optional) may be completed on a monthly basis. The information from these 12 completed forms can then be compiled and transferred to the annual report form to be submitted to Headquarters. An electronic version of these forms can be obtained from either your district or area environmental compliance coordinator.

5.3.3 Incentives and Recognition

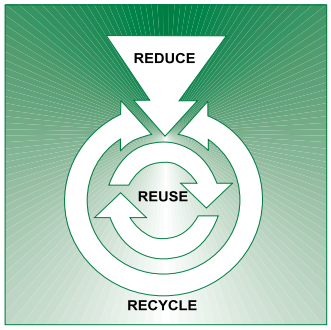
Providing incentives to employees to participate in pollution prevention activities and recognizing employees for outstanding environmental efforts are key to the program's success.

Creating and maintaining enthusiasm for the pollution prevention program can be the key to its success. By developing a system of incentives and recognition, employees are encouraged to be active participants in the program. The issuance of monetary incentives is a good way to encourage participation. Awards or bonuses to employees who suggest viable ways to prevent pollution is always well received. In addition, announcing the incentives program in a highly visible manner will spark interest and participation.



Appendix A

Glossary of Terms



Glossary of Terms

Affirmative Procurement

A strategy for maximizing the purchase of an EPA-designated item. Assures that items composed of recovered materials are purchased to the maximum extent practicable and consistent with federal procurement law. (Example: Developing a program which identifies the most effective approach for purchasing and incorporating the most substantially equivalent alternative into a product or process). [40 CFR Part 247]

Best Management Practices (BMP)

Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce pollution. BMPs also include treatment requirements, operating procedures, practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. [40 CFR Part 122]

Disposal

The discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters. If waste is hazardous, then it would be considered a release (see definition below). [40 CFR Part 260]

Environmentally Preferable

Products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service. (Example: Recycling white office paper is environmentally preferable to sending it to a landfill or using a biodegradable solvent is environmentally preferable to using a toxic solvent). [EO 12873]

Hazardous Waste

Any waste or combination of wastes that pose a substantial present or potential hazard to human health or living organisms because such wastes are nondegradable or persistent in nature or because they can be biologically magnified, or because they can be lethal, or because they may otherwise cause or tend to cause detrimental cumulative effects. [40 CFR Part 241]

Implementation

Putting the plan into practice by carrying out planned activities, including compliance and enforcement activities, or ensuring such activities are carried out. [40 CFR Part 256]

Pollution Prevention

The use of materials, processes, or practices that reduce or eliminate the creation of pollutants or wastes at the source. It includes practices that reduce the use of hazardous materials, energy, water or other resources, and practices that protect natural resources through conservation or more efficient use (Example: Changing the type of solvent used to clean a machine from a product containing hazardous chemicals to one containing environmentally friendly chemicals, or using a more energy efficient machine to run a process).

Pollution Prevention Opportunity Assessments (PPOAs)

Initial and ongoing/periodic internal reviews of specific processes and operations designed to identify and provide information about opportunities to reduce the use, production, and generation of toxic and hazardous materials and waste.

Post-Consumer Content

The percentage of recycled material in a product that comes from material or finished product that has served its intended use and has been recovered/recycled, having completed its life as a consumer item (Example: Plastic soda bottles are recycled and processed to make Plexiglas). [EO 12873]

Pre-Consumer Content

The percentage of recycled material in a product that comes from by-products or scrap that is the result of a production process (Example: Scrap metal from the production of cars in an automobile factory is melted down to make swingsets).

Procurement Item

Any device, good, substance, material, product, or other item, whether real or personal property, that is the subject of any purchase, barter, or other exchange made to procure such item. [RCRA Section 1004]

Recoverable Resources

Materials that still have useful physical, chemical, or biological properties after serving their original purpose and can, therefore, be reused or recycled for the same or other purposes. [40 CFR Part 245]

Recycling

The process by which recovered materials are transformed into new products. (Example: Lead acid batteries that are damaged or can no longer hold a charge are collected, stored and dispatched in bulk to a designated battery vendor or off-site reclamation facility). [40 CFR Part 245]

Recycled Material

Recycled Material - A material that can be utilized in place of a raw or virgin material in manufacturing a product and consists of materials derived from post-consumer waste, industrial scrap, material derived from agricultural wastes and other items, all of which can be used in the manufacture of new products. [40 CFR Part 247]

Recycled Oil

Any used oil that is reused, following its original use, for any purpose (including the purpose for which the oil was originally used). Such term includes oil that is re-refined, reclaimed, burned, or re-processed. The Postal Service uses only API-certified re-refined oil. The API seal ensures that the oil meets or exceeds new car manufacturer's warrantee requirements. [RCRA Section 1004]

Release

Any intentional or unintentional action or omission resulting in the spilling, leaking, pumping, pouring, emitting, emptying, dumping, or disposing of hazardous materials into the surface or groundwaters, or onto the land (Example: A 55 gallon drum of waste oil is accidentally knocked over by a truck, and the contents spill into the nearby soil).

Resource Conservation

The reduction of the amounts of solid waste that is generated; reduction of overall resource consumption, and utilization of recovered resources. [RCRA Section 1004]

Reuse

The use of a product more than once in its same form for the same purpose (Example: When a soft drink bottle is returned to the bottling company for refilling or parts shipping boxes are used again to ship parts).

Source Reduction

Any practice that 1) reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment before recycling, treatment, and disposal; and 2) reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants. This includes equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training or inventory control (Example: Modifying the content of the materials that go into a product by replacing hazardous chemicals or substances with the equivalent environmentally friendly ones).

Treatment

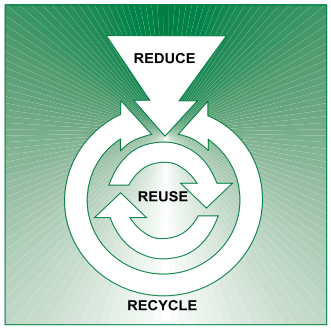
Any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste nonhazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage or reduction in volume (Example: Neutralizing a toxic chemical by the addition of another chemical or substance). [40 CFR Part 260]

Used Oil

Any oil that has been refined from crude oil, or any synthetic oil that has been used and as a result of such use is contaminated by physical or chemical impurities. [40 CFR Part 260]

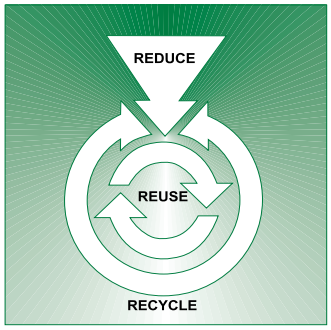
Waste

Any material discarded as worthless, defective, or of no further use that, when disposed of, may pose a threat to human health or the environment. Since the passage of RCRA, most uses of the term "waste" refer exclusively to the hazardous and solid wastes regulated under RCRA (Example: Waste oil, spent chemicals, unusable raw materials, rinse water, etc.).



Appendix B

References



References

As the pollution prevention program is being developed and implemented, you may want additional ideas on approaches and solutions to specific problems. To assist in these efforts, various federal agencies have developed guidance documents on ways to develop and implement pollution prevention programs. These are identified below.

Guidance Documents

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

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

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

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

Pollution Prevention Directory

EPA/742-B-94-005

U.S. EPA
401 M STREET SW
WASHINGTON DC 20460
(202) 260-9801

Technical Assistance Programs

Pollution Prevention Information Clearinghouse (PPIC)

U.S. ENVIRONMENTAL PROTECTION AGENCY
PM-211-A
401 M STREET SW
WASHINGTON DC 20460
(202) 260-1023

PPIC 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.

Pollution Prevention Information Exchange System (PIES) and Federal Agency Mini-Exchange (FAME)

EPA SYSTEMS DEVELOPMENT CENTER
200 NORTH GLEBE ROAD
ARLINGTON VA 22203
(703) 506-1025 (MODEM)

PIES and FAME are free, 24-hour electronic networks. PIES consists of message centers, bulletins, technical databases, case studies, and issue-specific conference listings. FAME is a database on the Pollution Prevention Information Exchange System that provides information on pollution prevention or recycling efforts at federal facilities.

Center for Environmental Research Information (CERI)
DOROTHY WILLIAMS
U.S. EPA
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 the EPA.

Center for Waste Reduction Technologies (CWRT)
AMERICAN INSTITUTE OF CHEMICAL ENGINEERS
345 EAST 47TH STREET
NEW YORK NY 10017
(212) 705-7407

CWRT was established to support industry efforts in meeting the challenges of waste reduction.

EPA Regional Offices

REGION 1
ENVIRONMENTAL PROTECTION AGENCY
JOHN F. KENNEDY FEDERAL BUILDING
ROOM 2203
BOSTON MA 02203-2211
(617) 565-3715

REGION 2
ENVIRONMENTAL PROTECTION AGENCY
26 FEDERAL PLAZA
NEW YORK NY 10278-0012
(212) 264-2525

REGION 3
ENVIRONMENTAL PROTECTION AGENCY
841 CHESTNUT STREET
PHILADELPHIA PA 19107-4431
(215) 597-9800

REGION 4
ENVIRONMENTAL PROTECTION AGENCY
345 COURTLAND STREET NE
ATLANTA GA 30308-3420
(404) 347-4727

REGION 5
ENVIRONMENTAL PROTECTION AGENCY
230 SOUTH DEARBORN STREET
CHICAGO IL 60604-1502
(312) 353-2000

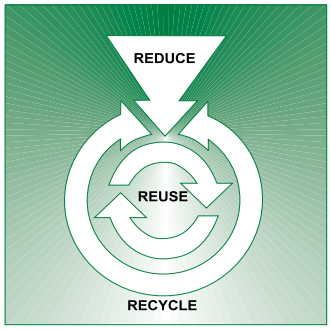
REGION 6
ENVIRONMENTAL PROTECTION AGENCY
1445 ROSS AVENUE
12TH FLOOR SUITE 1200
DALLAS TX 75270-4748
(214) 655-6444

REGION 7
ENVIRONMENTAL PROTECTION AGENCY
726 MINNESOTA AVENUE
KANSAS CITY KS 66101-2704
(913) 236-2800

REGION 8
ENVIRONMENTAL PROTECTION AGENCY
999 18TH STREET SUITE 500
DENVER CO 80202-2405
(303) 293-1603

REGION 9
ENVIRONMENTAL PROTECTION AGENCY
215 FREMONT STREET
SAN FRANCISCO CA 94105-2306
(415) 974-8071

REGION 10
ENVIRONMENTAL PROTECTION AGENCY
1200 SIXTH AVENUE
SEATTLE WA 98101-1128
(206) 442-5810



Appendix C

Pollution Prevention Summaries

Pollution Prevention Study Summaries

Table of Contents

Process and Product Evaluations

Equipment Specifications

Pollution Prevention Study Summary

Vehicle Maintenance Alternative Technologies Demonstrations and Evaluation
Hartford, CT Vehicle Maintenance Facility

Date of Study/Evaluation: Feb. 1994 (Revised July 1995)

Author/Contact Name: Ron Robbins, Area Environmental Compliance Coordinator

Location: Northeast Area

Telephone #: (860) 285-7197

Objective of Study: To provide an evaluation of some relatively new commercially available products and emerging technologies that can prevent and/or reduce the generation of hazardous wastes during vehicle cleaning and degreasing processes. The study focuses on Postal Service vehicle maintenance facility (VMF) operations but the information collected can easily be extended to maintenance operations in Postal Service processing and distribution (P&D) facilities. The information provided is used to support and assist VMF and Plant Managers in eliminating the seventeen compounds targeted for reduction by the United States Environmental Protection Agency (USEPA) in the 33/50 Program.

Methodology/Parameters of Study: The process used to evaluate products in this study initially eliminated any which did not meet the minimum criteria:

1) Contain no ozone depleting Class I or Class II substances.
2) No constituents in the product contain any of the 17 chemicals targeted for reduction in the USEPA 33/50 Program.

The parameters of the study included product evaluations of parts degreasers, penetrants/lubricants, brake cleaners, and vehicle wash cleaners demonstrated at the Postal Service Vehicle Maintenance Facility in Hartford, Connecticut. Parts washing sinks with degreasing solutions were evaluated for parts removed from a vehicle. In addition to this, degreasers used for cleaning parts in place were evaluated separately. All parts degreasing products were segregated into five categories; 1) aqueous/hydrocarbon cleaners, 2) terpene solvent, 3) aliphatic hydrocarbon blends, 4) miscellaneous organic solvents (i.e., alcohols, hexane), and 5) aqueous cleaners with microbial treatment.

Summary/Results of Study: The results of this evaluation indicate that many of the non-hazardous or "environmentally preferred" parts degreasing products evaluated performed better than the traditional hazardous solvent based degreasers. While a few Hartford VMF staff were more comfortable with the petroleum base solvents (e.g., mineral spirits), several non-hazardous aqueous cleaners and environmentally preferred solvents received ratings that exceeded the performance of Safety-Kleen 105 Solvent (a hazardous material). For products that successfully performed the tasks for which they were intended, additional evaluations were conducted. In addition to performance (i.e., ability to clean), technical evaluations addressed the potential environmental, safety and financial impacts. Economic evaluations for the top four parts degreasing systems evaluated indicate that these systems, when owned and maintained in-house, have a lower annual operating cost than the existing parts cleaning service contracts established with Safety-Kleen.

Pollution Prevention Study Summary

Pollution Prevention/Environmental Study for Automobile Refinishing and Used Oil Management, *Hartford, CT Vehicle Maintenance Facility*

Date of Study/Evaluation: June 1995

Author: EMCON & Tellus Institute, Ron Robbins, USPS

Contact Name: Ron Robbins, Area Environmental Compliance Coordinator

Location: Northeast Area

Telephone #: (860) 285-7197

Objective of Study: The objective of the project was to conduct a financial analysis of alternatives to the existing vehicle painting and used oil handling practices. The cost items analyzed included capital equipment costs and annual operating costs from material use and disposal. One objective of the study was to transfer the results of this study to other VMFs in the Northeast Area which have similar operations.

Methodology/Parameters of Study: The methodology used in the economic analysis is Total Cost Assessment (TCA), a method for providing a comprehensive financial analysis of pollution prevention projects. TCA incorporates:

- A comprehensive inventory of costs and savings attributable to the project.
- More precise allocation of existing costs/savings to specific processes.
- Longer analysis time horizons for the capture of long term cost/savings.
- Indicators of project profitability that incorporate the time value of money.

The tool used for TCA in this case was P2/Finance, a flexible spreadsheet developed by the Tellus Institute. P2/Finance guides the user in data collection and analysis essential for the rigorous financial analysis of P2 and other environmental projects.

Summary/Results of Study: The results of the analysis for paint options recommend selecting a switch to High Volume, Low Pressure (HVLP) spray guns which result in reduced raw material usage. The payback and internal rate of return on switching to HVLP spray guns are both very favorable. HVLP guns also have a favorable environmental impact by reducing the annual pounds of EPA 33/50 compounds used for the same amount of paint work.

The results of the study showed that for used oil, the most attractive option from an economic point of view is to install and operate a used oil burner at the VMF. This alternative is however not consistent with federal policies emphasizing the reuse of oil where practical. Therefore, the recommended option was a closed loop alternative whereby the facility would purchase re-refined oil from the same vendor that collects the used oil, creating in effect a closed loop.

Pollution Prevention Study Summary

Facility Maintenance Alternative Technologies Demonstration and Evaluation, *Syracuse, NY Processing and Distribution Facility*

Date of Study/Evaluation: May 1996

Author: Ron Robbins & Roy F. Weston, Inc.

Contact Name: Ron Robbins, Area Environmental Compliance Coordinator

Location: Northeast Area

Telephone #: (860) 285-7197

Objective of Study: The objective of this study was to evaluate ways to reduce the amount of potentially hazardous chemicals that are purchased, used, and disposed of at Postal Facilities. The evaluation was intended to identify safer alternatives to maintenance products currently in use at the Postal Service's Processing and Distribution (P&D) facilities. The use of alternative chemicals at Postal Service facilities will diminish the amount of potentially hazardous chemicals that the Postal Service purchases and disposes of, and that Postal Service employees are exposed to.

Methodology/Parameters of Study: The performance trial involved product testing by the maintenance personnel at the Syracuse, New York Processing and Distribution facility. The Syracuse staff rated the performance of each product tested in terms of its ability to do the job as well as what they currently use. Additional research included an investigation of papers written on environmentally preferred products, literature obtained by the NEA Environmental Compliance Coordinator and MSDSs provided by the manufacturers.

The products were evaluated based on chemical composition (i.e., do not contain any Class I or Class II ozone depleting substances, do not contain any of the 17 EPA targeted chemicals, etc.), user acceptability and cost effectiveness.

Summary/Results of Study: The results of this study identified commercially available maintenance products which were "environmentally preferred" and cost effective in comparison to commonly used products containing more hazardous ingredients. A total of 76 products in 14 use categories were evaluated. Products in the performance trial included floor strippers, disinfectants, glass cleaners, carpet cleaners, all-purpose cleaners, graffiti removers, paint gun cleaners, and electrical contact cleaning solvents. Other products evaluated included floor waxes, spray de-icers, ice melters, de-inkers, herbicides and algaecides. In cases where the products were performance tested, many of the environmentally preferred products performed as well or better than products containing more hazardous ingredients. Products that were favored prior to the performance evaluation by personnel at the Syracuse, New York facility, often did not perform as well as their more environmentally preferred counterparts. Additionally, the lowest cost product was identified in each product type. In approximately half of the product types, the lowest priced product was also environmentally preferred.

Pollution Prevention Study Summary

Equipment Specifications Reference Guide for Oil Filter Crushers

Date of Study/Evaluation: November 1995

Author: Roy F. Weston, Inc.

Contact Name: Ron Robbins, Area Environmental Compliance Coordinator

Location: Northeast Area

Telephone #: (860) 285-7197

Objective of Study: The objective of this study was to evaluate oil filter crushers in accordance with the Postal Service's needs to determine which features will provide the best value to the Postal Service and to prepare general specifications for procurement. Technical information from several oil filter crusher vendors was evaluated and provided in the report. The information gathered from this study was provided for convenience in comparing equipment features.

Methodology/Parameters of Study: Questionnaires regarding the use of oil filter crushers were sent to several VMFs located throughout the Northeast Area. Information requested on the questionnaire included the type of oil filter crusher currently in use, if any; performance of oil filter crusher including safety, maintenance, efficiency, speed, etc.; the maximum size of oil filter generated at the facility; costs for recycling; and the capacity of the facility's air compressors. Information from the questionnaires which were completed and returned was used to determine facility-specific requirements and to rate the performance of oil filter crushers currently in use at these facilities.

Summary/Results of Study: The results of this study provided a concise reference guide with recommendations from VMFs for oil filter crushers currently in use and vendor and manufacturer specifications for other oil filter crushers.

The study also developed the following list of minimum specifications for purchasing any oil filter crusher.

1) The unit should be able to crush the largest size oil filter (based on both height and wall thickness) that is generated by the VMF (minimum height = 18 inches)
2) The cycle time should be less than one minute.
3) If a compressed air power unit is chosen, the VMF's air compressors must be able to handle the crusher's demand in addition to current demands.
4) The crushing weight should be 11 tons or greater, unless otherwise justified.
5) The price range for oil filter crushers should be from $1,335 to $4,100.

Pollution Prevention Study Summary

Equipment Specifications Reference Guide for Carbon Monoxide Monitors

Date of Study/Evaluation: November 1995

Author: Roy F. Weston, Inc.

Contact: Ron Robbins, Area Environmental Compliance Coordinator

Location: Northeast Area

Telephone #: (860) 285-7197

Objective of Study: The objective of this study was to evaluate carbon monoxide monitors in accordance with the Postal Service's needs to determine which models will provide the best value to the Postal Service and to prepare general specifications for procurement. Technical information from several carbon monoxide monitor vendors was evaluated and provided in the report. The information gathered from this study was provided for convenience in comparing equipment features.

Methodology/Parameters of Study: Questionnaires regarding the use of carbon monoxide monitors were sent to several VMFs located throughout the Northeast Area. Information requested on the questionnaire included the type of carbon monoxide monitor currently in use, if any; performance of carbon monoxide monitor including maintenance, efficiency, etc.; the size of the area to be monitored; whether logging capabilities were required; whether an audible alarm was needed; and whether a hand held model was needed. Information from the questionnaires which were completed and returned was used to determine facility-specific requirements and to rate the performance of carbon monoxide monitors currently in use at these facilities.

Summary/Results of Study: The results of this study provided a concise reference guide with recommendations from VMFs for carbon monoxide monitors currently in use and vendor and manufacturer specifications for other carbon monoxide monitors.

The study also developed the following list of minimum specifications for purchasing any carbon monoxide monitor.

1) There should be at least one sensor for every 5,000 square feet of floor space.
2) There should be a visible strobe alarm and audio alarm in each section of the building.
3) The carbon monoxide monitor should have a delay to account for vehicle start-up.
4) A careful decision should be made as to whether logging capabilities are desired.
5) The price range for single-point carbon monoxide monitors should be from $1,200 to $2,500. The price range for multi-point carbon monoxide monitors should be from $1,100 to $2,000 per sensor point.

Pollution Prevention Study Summary

Equipment Specifications Reference Guide for Carboard Balers

Date of Study/Evaluation: November 1995

Author: Roy F. Weston, Inc.

Contact: Ron Robbins, Area Environmental Compliance Coordinator

Location: Northeast Area

Telephone #: (860) 285-7197

Objective of Study: The objective of this study was to evaluate cardboard balers in accordance with the Postal Service's needs to determine which models will provide the best value to the Postal Service and to prepare general specifications for procurement. Technical information from several cardboard baler vendors was evaluated and provided in the report. The information gathered from this study was provided for convenience in comparing equipment features.

Methodology/Parameters of Study: Questionnaires regarding the use of cardboard balers were sent to several VMFs located throughout the Northeast Area. Information requested on the questionnaire included the type of cardboard baler currently in use, if any; performance of cardboard baler including safety, maintenance, efficiency, speed, etc.; power requirements; requirements of waste hauler/recycler; and the type and size of cardboard generated by the facility. Information from the questionnaires which were completed and returned was used to determine facility-specific requirements and to rate the performance of cardboard balers currently in use at these facilities.

Summary/Results of Study: The results of this study provided a concise reference guide with recommendations from VMFs for cardboard balers currently in use and vendor and manufacturer specifications for other cardboard balers.

The study also developed the following list of minimum specifications for purchasing any cardboard baler.

1) The estimated payback period for the baler should be sufficient to justify the purchase of a baler.
2) The baler should produce a standard mill bale (60-inch wide, 1,000 pound bale), unless otherwise justified.
3) The baler should have a solid bar bale ejector system, automatic shutoff of the platen when the lower chamber door or loading gate is open or when the loading gate is disengaged from the platen, and proper lockout/tagout provisions for the controller.
4) The facility must have the proper space available to operate the baler.
5) The baler's cycle time should be under one minute.
6) The minimum compaction force for a standard mill bale size baler is 55,000 pounds, unless otherwise justified.
7) The price range for cardboard balers should be from $6,000 to $10,000.

Pollution Prevention Study Summary

Equipment Specifications Reference Guide for Antifreeze Recyclers

Date of Study/Evaluation: November 1995

Author: Roy F. Weston, Inc.

Contact: Ron Robbins, Area Environmental Compliance Coordinator

Location: Northeast Area

Telephone #: (860) 285-7197

Objective of Study: The objective of this study was to evaluate antifreeze recyclers in accordance with the Postal Service's needs to determine which models will provide the best value to the Postal Service and to prepare general specifications for procurement. Technical information from several antifreeze recycler vendors was evaluated and provided in the report. The information gathered from this study was provided for convenience in comparing equipment features.

Methodology/Parameters of Study: Questionnaires regarding the use of antifreeze recyclers were sent to several VMFs located throughout the Northeast Area. Information requested on the questionnaire included the type of antifreeze recycler currently in use, if any; performance of antifreeze recycler including capacity, cycle time, safety, maintenance, efficiency, speed, etc.; whether or not the unit meets General Motors standards; and whether maintenance of antifreeze is seasonal or on an as-needed basis throughout the year. Information from the questionnaires which were completed and returned was used to determine facility-specific requirements and to rate the performance of antifreeze reyclers currently in use at these facilities.

Summary/Results of Study: The results of this study provided a concise reference guide with recommendations from VMFs for antifreeze recyclers currently in use and vendor and manufacturer specifications for other antifreeze recyclers.

The study also developed the following list of minimum specifications for purchasing any antifreeze recycler.

1) The costs of purchasing a recycling unit versus contracting the recycling or disposal should be calculated to determine if purchasing the unit is cost effective.
2) The recycling unit should be GM-Approved.
3) The cycle time of the recycling unit should be adequate to handle the daily volume of antifreeze generated by the facility.
    a) Closed loop attached units should handle a minimum of 4 gallons per hour.
    b) Bulk recycling unites should handle a minimum of 20 gallons per hour.
4) The price range for an antifreeze recycler should be from $2,000 to $6,000.

Pollution Prevention Study Summary

Equipment Specifications Reference Guide for Compactor/Compaction Container Systems

Date of Study/Evaluation: November 1995

Author: Roy F. Weston, Inc.

Contact: Ron Robbins, Area Environmental Compliance Coordinator

Location: Northeast Area

Telephone #: (860) 285-7197

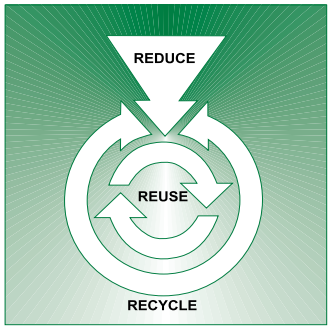
Objective of Study: The objective of this study was to evaluate compactor/compaction container systems in accordance with the Postal Service's needs to determine which models will provide the best value to the Postal Service and to prepare general specifications for procurement. Technical information from several compactor/compaction container system vendors was evaluated and provided in the report. The information gathered from this study was provided for convenience in comparing equipment features.

Methodology/Parameters of Study: Questionnaires regarding the use of compactor/compaction container systems were sent to several VMFs located throughout the Northeast Area. Information requested on the questionnaire included the type of compactor/compaction container system currently in use, if any; performance of compactor/compaction container system including safety, maintenance, efficiency, speed, etc.; the frequency of pickups by the waste hauler; whether a fully enclosed compaction conainer is required; and the current costs associated with solid waste disposal at the facility. Information from the questionnaires which were completed and returned was used to determine facility-specific requirements and to rate the performance of compactor/compaction container systems currently in use at these facilities.

Summary/Results of Study: The results of this study provided a concise reference guide with recommendations from VMFs for compactor/compaction container systems currently in use and vendor and manufacturer specifications for other compactor/compaction container systems.

The study also developed the following list of minimum specifications for purchasing any compactor/compaction container system.

1) The fully compacted container must be within the legal weight limits for handling.
2) The container should be compatible with the current and other area waste handlers.
3) Container size should be selected based on available space. A 40 yard container is commonly used.
4) Compactor cycle time should be under one minute.
5) The price range for a combination compactor/compaction container system should be between $10,000 and $20,000.



Appendix D

Waste Material/Product Fact Sheets

Waste Material and Product Fact Sheets

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Antifreeze and Use Engine Coolant

1. Material Sources

The primary source of used engine coolant, or antifreeze, is routine maintenance and repair of Postal Service vehicles. Coolant also may be used in the operation of equipment, such as generators. Ethylene glycol is the most common engine coolant, although some are made with propylene glycol.

2. Regulatory Issues

Engine coolant contains potentially hazardous chemicals such as ethylene glycol, propylene glycol, corrosion inhibitor and other additives. Most antifreeze formulations need to be evaluated for the presence of hazardous waste characteristics before disposal or other management activities. Lead from radiator solder and solvent contamination are particular concerns. Some states may regulate used engine coolant as a hazardous waste or as a "special" waste, or mandate used engine coolant recycling; or ban used engine coolant from landfill disposal. Check with the appropriate state environmental agency to determine how to properly manage used engine coolant.

Section 6002 of the Resource Conservation and Recovery Act (RCRA) directs federal agencies to purchase "items composed of the highest percentage of recovered materials practicable." EPA has established a procurement guideline for engine coolant. The guideline recommends establishing a program for engine coolant reclamation and reuse and the purchase of reclaimed engine coolant. Executive Order 12873 directs federal agencies to develop and implement affirmative procurement programs for EPA guideline items.

3. Management Policies

Postal Service policy stresses waste prevention. Postal Service facilities should recycle used engine coolant and, under the federal procurement guidelines, implement policies for purchasing recycled-content engine coolants.

4. Pollution Prevention Opportunities

Recycle Used Engine Coolant

- Engine coolants are recyclable and may be recycled in-house.
- To ensure the most efficient recycling program, the same base chemical coolant (*e.g.*, ethylene glycol or propylene glycol) should be purchased for all uses.
- Recycle used engine coolant in a closed-loop program. Consider purchasing an on-site antifreeze recycling unit. The two types of recycling technologies are filtration and distillation. Filtration systems rely on a series of fine mesh filters to remove suspended matter from the coolant. The pH is adjusted and new inhibitor is added to restore the properties of the coolant. It may be necessary to mix some fresh coolant with the recycled product. The filtration unit produces spent filters that may be a hazardous waste because of metals content. Distillation systems reportedly attain higher levels of cleanliness than filtration systems because distillation removes more contaminants, particularly metals. Residues from distillation may be regulated waste. Contact the appropriate state environmental agency for further information on appropriate management.
- An alternative is to establish a service contract for reclamation of spent engine coolant. Arrange an agreement with an engine coolant recycler. The recycler takes a facility's used coolant and returns recycled coolant to the facility. In such an agreement, used coolant often is exempt from hazardous waste testing and management regulations.

Specify Recycled-Content Engine Coolant

- Recycled-content engine coolants are available. The General Service Administration (GSA) or other outside suppliers can be contacted to identify specific sources of recycled-content coolant.

Eliminate Contamination

Solvents, used oil, and other products improperly disposed into used engine coolant storage containers or mixed with used engine coolant may create a hazardous waste that must be managed, transported and disposed at considerable cost. Train staff in source separation. Keep containers closed and, if necessary, locked to avoid contamination.

Batteries(Household)

1. Material Sources

The primary source of spent household-type batteries within the Postal Service is electronic equipment, including pagers, flashlights and hand-held radios. These electronic devices are used in maintenance operations as well as Postal Inspection Service field activities. The Postal Service consumes thousands of batteries of all sizes to power these electronic items.

2. Regulatory Issues

Batteries may contain heavy metals, such as mercury, nickel, and cadmium. If these metals leak from the battery casing, they could be harmful to human health and the environment. Some states have developed special requirements for managing spent household-type batteries. Regulations for handling batteries vary from state to state. Check with the appropriate state environmental agency to determine specific requirements.

3. Management Policies

Postal Service policy does not specifically address the management of spent household batteries. However, general Postal Service policy emphasizes waste prevention and cost reduction through efficient environmental practices.

4. Pollution Prevention Opportunities

Reduce Spent Battery Generation

- Use rechargeable batteries for all suitable applications. Rechargeable batteries are not recommended for items that are used infrequently because the batteries lose about 1 percent of their charge daily, even when they are not in use. Nickel-cadmium batteries, referred to as “Nicad” batteries, are rechargeable and may be recharged and used hundreds of times. A rechargeable alkaline battery is also on the market. Although there is a capital expenditure associated with purchase of battery rechargers, the use of rechargeable batteries should decrease the number of batteries Postal Service facilities purchase and dispose of, resulting in significant cost savings.

- GSA offers Rayovac *Renewal* rechargeable alkaline batteries in sizes AAA, AA, C and D. Power stations for recharging the batteries also are available through GSA. For more information on *Renewal* batteries available through GSA, call Ms. Genni Brown at (817) 334-8377.

- Investigate purchase of electronic products with rechargeable battery packs.

- Train staff in the proper use and charging of rechargeable batteries. Staff must understand when batteries need to be charged, how to charge them, and for how long.

- For those applications for which rechargeable batteries are not suitable, use long-lasting batteries to minimize battery consumption. Alkaline batteries tend to have the longest life of single-use, household-type batteries. Specify alkaline batteries that are low in mercury.

Recycle Spent Batteries

- Establish an in-house battery recycling program. Recycling programs exist for many types of batteries, including nicad and mercury and silver oxide batteries. For information on a national nicad battery recycling program, contact David Thompson of the Rechargeable Battery Recycling Corporation (RBRC) at (201) 934-4202.

Batteries (Lead Acid)

1. Material Sources

The primary sources of lead acid batteries within the Postal Service are fleet vehicles, including trucks, LLVs, and automobiles and electric-powered equipment such as fork lifts and floor washers.

2. Regulatory Issues

Because of the lead content, lead-acid batteries are considered hazardous unless they are recycled. Some states have battery deposit laws that require payment of a fee if an old battery is not returned at the time of purchase of a new battery.

Postal facilities that generate, transport or collect spent batteries or that store spent batteries, but do not reclaim them, are not subject to regulation as stated in 40 CFR 266.0, Subpart G.

3. Management Policies

Lead acid batteries that can no longer hold a charge or have been damaged must be taken out of service, recycled, disposed of or reclaimed. Off-site recycling is considered by the Postal Service as the most viable option. All parts of spent lead acid batteries are recyclable. Spent batteries should be collected and properly stored in a designated area away from the main shop. From there, they can be dispatched in bulk to a recycler for off-site reclamation..To prevent short circuits and protect against leaks, store batteries in an isolated, diked area with an impermeable surface, (such as a paved area with a shed/roof cover).

Batteries must not be drained before shipment off-site for recycling. The acid and metal in the batteries are hazardous waste after they are removed from the batteries.

4. Pollution Prevention Opportunities

Properly Dike Battery Recharge and Storage Areas

- Charge and store batteries in a diked area away from floor drains. If the battery room has a floor drain, be sure that the drain also is diked.
- Make sure than spill protection materials and eye wash equipment are available at each recharge site.

Do Not Overfill Batteries

- To eliminate the problem of battery overflow during recharge, do not overfill batteries.

Establish A Recycling Program

- Establish a lead acid battery recycling program in cooperation with the nearest Vehicle Maintenance Facility.

Construction & Demolition Debris

1. Material Sources

Construction and Demolition (C&D) debris consists of any waste or excess material generated during construction or demolition activities. C&D debris includes unused/excess materials from construction and renovation projects, as well as the wastes generated during demolition activities. The primary activities that generate C&D debris and their associated components are:

ACTIVITY	COMPONENTS
Construction	Wood, roofing, fixtures, wall board, wire, insulation, ducts, pipes, carpet, paneling
Demolition	Mxed rubble, concrete, steel, brick, timber, fittings, fixtures
Roadwork	Asphalt, concrete, and earth fill
Excavation	Earth, sand, and stones
Site Clearance	Trees, brush, earth, mixed concrete, rubble, sanc, steel
Overpassess/Bridges	Wood, asphalt, cement, rubble, steel

2. Regulatory Issues

Construction and demolition debris is composed primarily of inert waste and, in most states, is disposed in dedicated C&D landfills, when not recycled. Some states prohibit disposal of C & D waste in municipal landfills.

Some demolition debris may contain hazardous materials, such as asbestos, and should be evaluated for potential hazardous content prior to selecting a management option. Questions regarding how the waste should be managed should be addressed to the appropriate state solid or hazardous waste management agency.

3. Management Issues

The Postal Service is dedicated to reducing waste in all phases of its operations. Postal Service policy is to place provisions in demolition and construction contracts to ensure reuse of materials in the construction of new stamp distribution centers and regional equipment processing centers. The Postal Service encourages waste reduction by seeking alternatives to disposal.

4. Pollution Prevention Opportunities

Reduce the Quantity of C&D Debris Generated

- The first step to reducing the amount of debris generated from C&D activities is to reduce the amount of excess construction material. Often, construction materials are overpurchased by about 10 percent. The key to minimizing waste during construction lies in the planning process. Builders should consider when they will need materials and how excess materials from one part of the project might be used in another. For example, lumber cut-offs can be used as spacers in wall construction and sawdust can be used for landscaping or can be composted.

- Improper storage can cause material damage. If materials can be ordered incrementally, the potential for loss from damage is diminished. When materials such as lumber and drywall are stored, it is important that they be protected from rain and other adverse weather conditions and stored off the ground.

- Using engineered wood products as opposed to dimensional lumber may reduce C&D debris by up to 10 percent. Engineered lumber will not warp and will be relatively free of defects.

Reuse C&D Debris

- Reuse is often the best option for C&D materials that have been overstocked or that are off-specification. Materials such as bricks, paint, drywall, wood, and insulation that go unused in a construction project can be stored for later use. However, since warehousing often is more expensive than buying new materials for the next job, materials often are landfilled. Instead of landfilling these materials, they can be delivered to C&D debris recyclers for reuse, or they can be donated to groups such as Habitat for Humanity for construction of low-income housing, schools, community centers, or other projects.

Refurbish C&D Debris

- A primary factor to take into account during design and construction is how easily a structure can be disassembled for reuse during the demolition process. Many businesses have gone beyond recovering immediately reusable items into actually refurbishing and marketing the fixtures from building renovations and demolition. Items that are most easily refurbished include cabinets, doors, plumbing and lighting fixtures, tile, carpeting, door hinges, wall paneling, restroom mirrors, and stairway banisters.

Recycle C&D Debris

- In most instances, up to 90 percent of a given C&D debris waste stream can be recycled. However, while recycling of C&D debris is an important element of waste reduction, it is always preferable to prevent the waste or material from being generated in the first place.

- Before initiating a demolition project, contact local C&D waste recyclers to determine which materials they will accept. Some materials must be source separated; others may be separated and processed by the recycler. For example, materials such as concrete, roofing materials, and structural wood cannot be reused as recovered from C&D debris. Recyclers separate the various components of the waste stream with magnetic, manual, air, and water separation systems.

- Potential markets for recovered C&D debris include:

MATERIAL	POTENTIAL USES
Asphalt/tar roofing materials	Road repair materials; walkway/path construction
Concrete	Aggregate for new concrete or use in septic tanks, roadbeds, drainage fields, fill, driveways, pipe bedding
Metal	Smelter or foundry input for manufacture of new metals (ferrous and nonferous metals)
Glass	Recycled glass; aggregate for roadway construction
Plastic	Plastic lumber
Wallboard	New wallboard; agricultural fertilizer (gypsum)
Dirt	Soil/soil conditioner; fill material; landfill cover
Wood	Mulch; groundcover; compost bulking agent; animal bedding; molded wood;

Source Separation

- Asphalt roofing materials should be source separated to maintain the current high market value.
- Source separate all confirmed and suspected asbestos-containing materials. Manage all asbestos according to directions from the appropriate environmental agency.

EPA 17 Targeted Chemicals

1. Material Sources

Many products containing chemicals on the EPA 17 targeted chemicals list are used in Postal Service operations including parts cleaning, painting, equipment maintenance and repair, vehicle maintenance, and custodial operations. Some common materials that contain EPA 17 targeted chemicals include adhesives, spray paints, solder, lubricants, cleaners, degreasers, and even office products.

2. Regulatory Issues

The EPA has selected 17 target chemicals for reduction or elimination based on the volume of use, toxicity, persistence, and mobility. These chemicals were drawn from the Toxic Release Inventory (TRI) List in the Superfund Amendments and Reauthorization Act (SARA) Title III and given highest priority for reduction or elimination based on the hazards they can present to workers, the public, and the environment. The goal of the EPA 17 targeted chemicals program is to reduce release and off-site transfer of these target chemicals by 50 percent from 1988 levels by 1995.

3. Management Policies

The Postal Service is committed to strict enforcement of restrictions on the purchase and use of items or supplies containing the 17 chemicals on EPA's 17 targeted chemicals list. Chemicals of concern include: Benzene, Cadmium and Cadmium compounds, Carbon Tetrachloride, Chloroform, Chromium and Chromium compounds, Cyanide compounds and Hydrogen Cyanide, Lead and Lead compounds, Mercury and Mercury compounds, Methylene Chloride, Methyl Ethyl Ketone, Methyl Isobutyl Ketone, Nickel and Nickel compounds, Tetrachloroethylene (Perchloroethylene), Toluene, 1,1,1-Trichloroethane, Trichloroethylene, and all Xylenes.

POSTAL SERVICE EMPLOYEES SHOULD NOT PURCHASE ANY PRODUCTS THAT CONTAIN THESE CHEMICALS.

4. Pollution Prevention Opportunities

Change Purchasing Specifications

- Change purchasing specifications to require substitute products that do not contain the target chemicals. Once current stock of products containing chemicals on the EPA 17 targeted chemicals list is exhausted, purchase only substitute products that do not contain the target chemicals. GSA, the Defense General Supply Center and outside vendors offer product substitutes.

Train Staff

- Purchasing and other appropriate staff should be informed about the EPA 17 targeted chemicals program and instructed not to purchase materials containing the target chemicals. Staff that have authority to purchase products with credit cards or local purchase should be notified that purchase of products containing the 17 targeted chemicals is prohibited.

Inventory Supply

- Inventory current supply of products and materials that contain the 17 targeted chemicals. Arrange for immediate use or proper disposal of all of these items.

5. Inventory Form

EPA 17 Targeted Chemicals Inventory

Date	Product and Application	Chemical constituent(s)	Quantity	Disposition
5/22/95	Exacto degreaser	1,1,1, trichloroethane	4 12 oz cans	Use until depleted Do not reorder
TOTAL				

Grounds Maintenance

1. Material Sources

Materials associated with landscaping operations may include leaves, grass clippings, brush, trees and tree limbs, as well as lawn and plant care product packaging, expired lawn and plant care products, herbicides, pesticides, oils, and gasoline used to operate lawn mowers, chain saws and other equipment, and ice control chemicals. Landscaping activities generate approximately 20 percent of the municipal solid waste (MSW) in the United States each year. Generation of waste associated with grounds maintenance varies both regionally and seasonally, peaking in the summer and fall.

2. Regulatory Issues

Landscaping trimmings and leaves are relatively clean, biodegradable, and, in most cases do not require disposal in landfills or municipal solid waste (MSW) combustors. Many states and localities have enacted regulations that prohibit land disposal of leaves and yard trimmings. By mid-1995, twenty states will have banned land disposal of landscape trimmings.

Oils, gasoline herbicides, pesticides, and deicing chemicals may be subject to hazardous waste management and disposal regulations. Contact the appropriate state agency for information concerning proper handling of these wastes.

3. Management Policies

The Postal Service has developed a strong waste reduction policy. Reducing the quantity of wastes generated by a facility will substantially decrease that facility's overall waste expenditures. Most leaves and trimmings can be composted and reused on-site.

The Postal Service has adopted a policy of Integrated Pest Management; emphasis is on non-chemical control mechanisms.

4. Pollution Prevention Opportunities

Practice Appropriate Landscape Design, Management, Alteration, and Development

Select plants that minimize waste generation. During landscape planning, select plants that require minimal amounts of water, and no chemical fertilizer or pesticides. For example, leave native plants around water bodies and wetlands, rather than planting grass, to protect those resources and reduce the management burden. Plant more shrubs and perennials, particularly native plants... Plant trees and shrubs in mulched beds. Plant low-light plants, rather than high maintenance grass, in shady areas. Keep plants as healthy as possible (unhealthy plants lose more foliage).

Practice Grass-Cycling

- Grass-cycling is a process in which grass clippings are left in place on a lawn after mowing, instead of raked and bagged. This process improves lawn quality by returning important nutrients from the decaying clippings to the soil and lawn. Grass-cycling also saves time and money. No special equipment is needed. Less money is spent on fertilizers, disposable collection bags, and waste disposal.

- To maximize the effectiveness of grass-cycling, keep mower blades sharp, cut when grass is dry, and set mowers so that no more than 1/3 of the lawn height (no more than 1 inch) is removed with each mowing. The exact mowing height depends on the grass type and climate, but may be up to 3 or 4 inches during hot weather.

Compost Landscape Trimmings

- Composting is a natural process using microorganisms, generally bacteria and fungi, to breakdown organic wastes into a humus-like product. The product, known as compost, is dark colored, has an earthy odor and crumbly texture, and resembles rich topsoil. Compost is a superior soil conditioner or mulch suitable for most landscaping and gardening uses. Use of compost will help reduce reliance on chemical fertilizers that are extremely detrimental to surrounding ecosystems.

- Composting can be conducted either on-site in simple bins, or off-site at a larger community or commercial facility. Compost may also be purchased back from the composting facilities as an alternative to chemical soil amendments. Buying local compost helps close the recycling loop and is another important waste reduction activity.

- Nearly all landscape trimmings can be composted, as can many other wastes not commonly associated with composting, such as shredded newspapers.

- For the most part, logs, branches, and brush should be chipped or shredded before composting.

Mulch

- Mulching is the practice of spreading or mixing organic material, such as wood chips, leaves, grass clippings, or compost, over soil surfaces. Landscape trimmings can be immediately reused as mulch, eliminating all transport and disposal costs. Application of mulch is beneficial in all landscapes, but is especially important in aquifer and watershed areas. Mulch reduces evaporation of rainfall from the soil surface, reduces soil erosion and compaction from heavy rains, moderates soil temperature, provides optimal conditions for soil enhancing organisms and hence plant growth, protects young tree trunks, and provides nutrients as it decays. Further, mulch inhibits weed growth.

Minimize Use of Lawn Care Products

- Use of lawn and plant care products such as fertilizers and pesticides should be minimal. Select less- or non-toxic product substitutes. Careful product management can help to reduce waste and the impacts on the surrounding environment.

- Integrated pest management should play a key role in any landscaping operation. IPM combines chemical, cultural, and biological practices to manage pests. IPM incorporates preventive practices, natural predator and pest resistant plant species, and limited remedial practices.

Alternative Sidewalk Deicer

- Postal Service facilities currently use calcium chloride to deice facility sidewalks. Runoff may be harmful to surrounding soil and surface and ground water. Before applying deicing chemicals, remove snow and ice to the greatest extent possible. Seek a less toxic alternative, such as application of a liquid acetate anti-icers before freezing occurs.

Metals

1. Material Sources

Metals that are generated as waste in Postal Service facilities are primarily aluminum and steel generated in the form of broken or obsolete equipment, machine parts, and broken metal cages and carts in maintenance areas and mail sorting facilities. Vehicle maintenance generates additional metals from body work, parts replacement, and painting. Aluminum and steel beverage cans are generated in cafeterias and break areas. Aerosol cans are commonly generated from facility maintenance and vehicle maintenance activities.

2. Regulatory Issues

The metals listed here are all considered solid waste and should be managed accordingly. Some states mandate recycling and/or prohibit landfill disposal of metals. Some states have specific requirements for beverage cans. Aerosol cans and paint cans may be considered hazardous if their contents are hazardous. To avoid this classification, paint cans should be empty and dry. Aerosol cans should be emptied and depressurized before disposal or recycling. Many communities include metals in residential and commercial recycling programs; contact the local recycling coordinator. Contact the scrap metal recyclers about specific materials, as well.

3. Management Policies

The Postal Service encourages pollution prevention as a general policy. This includes preventing the generation of metals as waste and identifying opportunities for reuse and recycling.

4. Pollution Prevention Opportunities

Repair Metal Items

- Many metal carts, baskets, and cages can be repaired in the Postal Service maintenance shops. Scrapping such items should be a last resort, only after repair has been attempted and the equipment has been declared non-serviceable. If equipment cannot be repaired by in-house maintenance personnel, consider sending it to a regional repair facility.

Reuse Metal Parts

- Often machine parts can be used as replacement parts in other pieces of equipment. Saving parts for reuse can reduce the amount of waste generated and reduce the cost of purchasing new replacement parts.

Find Alternatives to Products In Aerosol Cans

- Pump sprays may be a suitable substitute for some aerosol containers. Often products in aerosol cans are hazardous or toxic. This includes spray paints and primers, degreasers, solvents, cleaners, and pesticides. These can be purchased in other forms, in lesser quantities, or replaced with non- or less-toxic products.

Recycle Metals

- All of the metals listed are potentially recyclable. Markets for scrap metal are readily available in most areas. Check with your community recycling coordinator, waste hauler, or recyclers in your area for more information.

- Postal Service policy may require auction of significant quantities of metal equipment. Check with your area or regional environmental coordinator for more information.

- Place recycling containers for aluminum cans in areas where they are generated most frequently, such as cafeterias, break rooms, and near vending machines.

- Designate specific areas for collecting scrap metal and label them appropriately.

Train Staff

- Train employees in methods of repairing and/or reusing metal equipment and parts.

- Educate employees about separating and collecting metals for recycling or reuse instead of disposing of them.

Paint and Paint Solvents

1. Material Sources

Painting operations are conducted throughout the Postal Service. Paint residuals are generated from incomplete use of paint and solvent, malfunctioning equipment, overspray, and spills. The primary source of paints and paint solvents is vehicle maintenance and repair activities. A secondary source of paint waste is facility maintenance and equipment repair activities.

2. Regulatory Issues

Paint residues and paint solvents exhibit the characteristic of ignitability and may also be considered toxic, if metals such as lead, cadmium, or chromium are used as pigments or additives. Because of these characteristics, liquid paint wastes are hazardous and are subject to hazardous waste disposal requirements.

3. Management Policies

Postal Service policy on management of paint stresses waste minimization. The volume and cost of the management of paint waste can be reduced through changes in procurement and operations.

4. Pollution Prevention Opportunities

Product Substitution

- Use nonhazardous paints in place of solvent-based paints. There are a number of alternative low VOC emitting paints or coatings available. These include water-based electrocoating, water-based non-electrocoating, two component high solids, single component high solids, and low VOC paint. Water-based coatings are formulated with water instead of organic solvents. The average solvent based coatings release five to six pounds of solvent per gallon. Water-based coatings emit between 0.5 and 3.4 pounds of solvent per gallon. Water-based coatings also clean up with soap and water, totally eliminating organic solvent clean-up waste. Water based non-electrocoatings are most compatible with VMF operations and offer the Postal Service the greatest opportunity to significantly eliminate paint-related hazardous waste.

High Volume Low Pressure (HVLP) Spray Guns

- Install high volume low pressure (HVLP) spray guns in paint booths. HVLP paint application equipment sprays at low pressure, less than seven pounds per square inch (psi), which gives greater control of the spray, reducing overspray and paint fog. The primary advantage of an HVLP system is reduction in VOC emissions. Secondary advantages include reduction in paint overspray and associated reduction in raw material costs since less paint is needed to cover the same area. In addition, because less overspray is collected in the paint filters, fewer replacement filters are needed.

Paint Gun Washer Station

- Install paint gun washer stations for more efficient cleaning of spray guns. HVLP guns require better cleaning than conventional guns, and gun washers can make a difference in maintaining their high performance. In addition, a gun washer system recycles the cleaning medium, reduces VOC emissions, decreases the washing cycle time, uses less solvent, and reduces worker exposure to toxic substances.

Plural Paint Application System

- the spray gun. This eliminates the need to mix two part paint in a container. The only waste from this system is the paint in the spray gun, manifold, and tubes from the manifold to the spray gun. This system can greatly reduce the amount of waste from paint mixing operations.

Paint Mixer System

- Evaluate paint mixer systems to assist in mixing paint properly. Commercially available paint mixers accurately measure and weigh the amount of paint that needs to be mixed, according to manufacturer's specifications. Paint mixing equipment carries a capital cost in the range of $250 to 400 dollars and is easy to install.

Schedule Painting Jobs

- Where feasible and applicable, attempt to schedule painting jobs so that all jobs requiring a specific color are completed before another color is used. Light coats should be applied before darker coats. Appropriate scheduling can reduce paint waste and create opportunities for paint reuse. Purchase paint on the basis of the workload to avoid stockpiling and disposal of expired materials.

Manage Paint Booth Filters

- Paint booth filters should be changed when they no longer provide adequate air flow because they are clogged by paint. Filters should be changed based on the amount of activity in the paint booth and filter effectiveness. Installation of a pressure gauge can reduce unnecessary filter changeout.

Paint Can Reduction and Recycling

- Purchase colors that are used on a regular basis in bulk containers to reduce the number of empty cans generated at a facility. It may be possible to order paint in five gallon reusable plastic pails that are picked up by or returned to the supplier. It is unwise to purchase paint in bulk if the product is likely to dry out or expire prior to being consumed.

- Purged aerosol cans and dry, five gallon steel cans can be recycled with other metals.

Paper

1. Material Sources

The Postal Service generates significant quantities of paper and paper products including old corrugated cardboard (see corrugated cardboard fact sheet), undeliverable bulk business mail (UBBM), loose in mails (LIMs), newsprint, magazines, white and colored office paper, computer printout, white and colored labels, paper towels, and plates, napkins and cups. The sources of the waste paper include internal and external shipping and receiving, computerized mail forwarding, mail processing, administrative offices, food service, and restrooms.

2. Regulatory Issues

Some states mandate recycling and/or prohibit landfill disposal of paper and paper products. Massachusetts, Rhode Island, and Wisconsin, for example, have landfill bans for office and computer paper, newsprint, corrugated cardboard, and paperboard. Consult the appropriate state environmental agency to determine whether paper and paper products must be segregated and recycled.

Section 6002 of the Resource Conservation and Recovery Act (RCRA) directs federal agencies to purchase "items composed of the highest percentage of recovered materials practicable."

EPA has established a procurement guideline for paper and paper products. Executive Order 12873 directs federal agencies to develop and implement affirmative procurement programs for EPA guideline items. EPA recommends that procuring agencies set minimum content at the highest levels practicable, but no lower than the levels shown in Exhibit 1.

3. Management Policies

- The Postal Service is committed to the reduction of waste at the source of generation.
- Postal Service directs requiring offices to "review purchase specifications to eliminate prohibitions or limitations on use of recovered materials." In addition, specifications should be modified to require EPA guideline percentages of recovered content in purchases of paper and paper products.

4. Pollution Prevention Opportunities

Reduce Paper Use and Disposal

- Establish a duplex copying policy for all multipage documents and provide staff with training in the use of the double-sided function on copying equipment. As equipment is replaced, specify easy to use, rapid, duplex capability.
- In office settings, expand and encourage the use of electronic mail, rather than paper memos and distribution copies. Limit distribution lists. If paper copies are necessary, circulate one memo or report with a cover sheet indicating distribution.
- Identify opportunities to reuse paper and paper products. Corrugated cardboard boxes, manila envelopes and other packaging materials are reusable for their original function; paper can be turned over and used as scratch paper or made into message pads.

Exhibit 1 - Recommended Minimum Content Standards for Paper and Paper Products[1]

Guideline Items	Min. % of recovered materials	Min. % of recovered post-consumer materials	Min. % of waste paper
Newsprint		40	
High grade bleached printing and writing paper:			
Offset printing			50
Mimeo and duplicator paper			50
Writing (stationary)			50
Office paper (e.g., note pads)			50
Paper for high-speed copiers			50
Envelopes			50
Form bond including computer paper and carbonless			50
Book paper			50
Bond paper			50
Ledger			50
Cover stock			50
Cotton fiber paper	25		50
Tissue products:			
Toilet tissue		20	
Paper towels		40	
Paper napkins		30	
Facial tissue		5	
Doilies		40	
Industrial wipers		0	
Unbleached packaging:			
Corrugated boxes		35	
Fiber boxes		35	
Brown paper (e.g., bags)		5	
Recycled paperboard:			
Recycled paperboard including folding cartons		80	
Pad backing		90	

[1]*Federal Register*, Vol. 60 No. 83, May 1, 1995, p. 21389.

- Encourage staff to proofread on screen and save information on disks rather than as file copies.

- Work with bulk mailers to update mailing lists and reduce excess copies.

Establish an Affirmative Procurement Program

- Each Postal facility should establish a preference program and adopt specifications for the purchase of paper and paper products with EPA specified percentages of recovered materials.

Establish Paper Recycling Programs

- The Postal Service disposes of significant amounts of paper that could be diverted for recycling. All postal facilities should establish source separation and recycling programs for paper and paper products including cardboard, computer print out, office paper (white and colored), magazines, newsprint, and undeliverable bulk business mail (UBBM). Small facilities that generate only very small quantities of paper should coordinate with local community recycling programs or with the nearest Processing and Distribution Center.

- Paper should be segregated from other waste. If there is a significant amount of white paper, it should be separated from mixed paper and cardboard because it can command higher revenues. Administrative offices should have an adequate number of desk containers and centralized collection containers for source separation of office paper, computer paper, magazines, and newspapers. The recycling contractor may provide assistance in designing and implementing a source separation program.

- The paper recycling market currently is very competitive. Contact several paper recyclers and local paper manufacturers to determine who will provide the best services. When establishing a paper recycling contract, establish an acceptable level of contaminants. Ensure a reasonable base payment with an additional percentage indexed to current market prices. This will protect against significant market fluctuations.

Provide Training on Reduction and Recycling

- Train all staff, including office personnel, mail handlers, technicians, and custodians in paper waste reduction, source separation, and recycling practices.

Parts Cleaning Solvents

1. Material Sources

Parts cleaning solvents are used in a variety of operations throughout postal facilities. The primary source of parts cleaning solvents is vehicle maintenance and repair activities. Other operations that use parts cleaning solvents are facility maintenance and equipment repair and maintenance. These activities can generate significant quantities of used parts cleaning solvents.

2. Regulatory Issues

Spent solvents typically exhibit characteristics of ignitability and/or toxicity and may be classified as hazardous waste under RCRA. Spent parts cleaning solvent must be disposed as hazardous waste. Solvents commonly used in parts cleaning operations that must be disposed as hazardous waste include: naphtha, 1,1,1-trichloroethane, methylene chloride, trichloroethylene, and petroleum distillates.

If considering changing to aqueous parts cleaning, contact the appropriate state regulatory agencies to determine whether rinsewater from aqueous cleaning can be discharged to the sanitary sewer, and what, if any, pretreatment is required.

3. Management Policies

Postal Service policy calls for all solvent based parts cleaners to be replaced with nonhazardous cleaning solutions, where available. Managers must assess parts washing equipment, service contracts, cleaning solution, and all inventory products that contain chemicals to ensure conformance with this requirement. If product substitution is not an option, contract with a licensed hazardous waste management firm for recycling of spent solvents or recover solvents for reuse through distillation.

4. Pollution Prevention Opportunities

Aqueous Parts Washer

- Purchase an aqueous parts washer to replace solvent-based parts cleaning tanks. Aqueous parts washers use high pressure water and detergent to remove dirt and grease from parts. These systems do not use solvents, potentially eliminating a hazardous waste stream. EPA found aqueous cleaners superior to solvent cleaners in removing inorganic contaminants, particulates, and films.

- Wastewaters from steam cleaning and pressure washing can be discharged to an on-site oil-water separator.

Product Substitution

- Purchase nonhazardous or less hazardous parts cleaners, such as aqueous-based cleaners, terpene cleaners, citrus-based cleaners, or alkaline detergents, in place of known hazardous solvents. In 1994, Postal Service Northeast Area conducted a study of a variety of parts washing systems and on-vehicle degreasers. Their findings may assist you in locating acceptable product substitutes.

Filtration System

- Install a filtration system in the solvent tanks to increase the life of the solvent. In parts cleaning operations, solvent wastes are generated when the solvent used to clean the parts becomes laden with contaminants from repeated use. Major contaminants are oil, grease, fuels, water, dirt, metal particles, paint, and other deposits. Filtration systems can be installed to remove these contaminants and extend the life of the solvent.

Recycle Spent Solvent

- For any spent solvent generated at your facility, ensure that the solvent is recycled or reused either on-site or off-site. Request written verification from the contractor that solvent is being recycled.

Modify Cleaning Procedures

- Determine how clean parts must be. Often, parts are overcleaned for the intended use, resulting in unnecessary waste generation. Set cleaning level guidelines for various parts, and train staff.

- Use solvents only when necessary. In some situations, rags, brushes, soap, and water can be used to remove grease, oil, and dirt from parts.

Housekeeping

- Since many solvents are highly volatile, solvent vapors can be a significant source of air emissions. To prevent fugitive air emissions, cover tanks when they are not in use.

Train Staff

- Train staff to drain parts inside the sink to reduce dripping of solvents onto shop floor.

- Employees utilizing solvent cleaning should be trained in the use of substitute products and in the proper operation of process equipment and recycling operations. If new equipment is purchased, all staff should be trained in its proper use.

Plastic

1. Material Sources

Significant sources of plastic entering the Postal Service waste stream include: shrink and stretch wrap, a variety of colors of strapping and plastic pallets from shipping and receiving areas; damaged corrugated high density polyethylene (HDPE) plastic mail trays; empty PET, HDPE, and polypropylene bottles from cleaning products, photocopy toner, beverages and other products, film trash bags, and polystyrene cups, bowls, plates, and cutlery from food service operations.

2. Regulatory Issues

Some states mandate recycling and/or prohibit landfill disposal of certain plastic resins or PET and HDPE food and beverage containers, specifically. Consult with the appropriate state environmental agency to determine whether plastic containers must be segregated and recycled.

Section 6002 of the Resource Conservation and Recovery Act (RCRA) directs federal agencies to purchase "items composed of the highest percentage of recovered materials practicable." EPA has established procurement guidelines for plastic desktop accessories and plastic trash bags. Executive Order 12873 directs federal agencies to develop and implement affirmative procurement programs for EPA guideline items. EPA recommends that procuring agencies set minimum content at the highest levels practicable. Exhibit 1 provides the range of content available in each product category.

Exhibit 1 - Range of Recycled Content

Product	Percentage postconsumer recovered material
Plastic desktop accessories	25 to 80% polystyrene
Plastic trash bags	10 to 100% plastic

3. Management Policies

Postal Service policy does not specifically address the management of plastic. However, general Postal Service policy emphasizes waste prevention and cost reduction through efficient environmental practices. Based on these principles, Postal Service facilities should consider instituting measures to reduce the quantity of waste plastic generated and establishing recycling programs for those resins for which a cost-effective recycling option is available.

4. Pollution Prevention Opportunities

Reduce Plastic Waste Generation

- Work with bulk mailers and suppliers to reduce the quantity of shrink/stretch wrap and plastic strapping entering Postal Service facilities.

- Specify delivery of cleaning products in bulk. Many companies offer multiple product bulk dispensers utilizing refillable containers. These dispensers simplify storage and delivery of products and eliminate disposal of bottles from cleaning products.

- For food service areas, replace polystyrene plates, bowls, and cups with reusable dishes and utensils for all food consumed in cafeteria areas. Offer a limited number of disposable containers for take-out only.

Establish Recycling Programs for Plastics

- Work with waste hauler or local recyclers to establish plastics recycling programs. Contact the American Plastics Council (1-800-243-5790) for assistance in identifying local facilities that recycle plastics. Work with the recycling facility to determine source separation requirements.

- Obtain collection bins and place in locations convenient to waste sources. Clearly label the bins indicating the type(s) of plastic accepted. Include collection bins for plastic food and beverage containers in food service areas.

- Consider stretch wrap recycling. Several companies purchase truck-load quantities of stretch wrap that is baled and virtually contaminant-free. Combine loads with other Postal Service facilities in the local area to achieve truck-load quantities. Ensure stretch wrap is free of labels, plastic strapping, dirt and other contaminants. For more information and a list of stretch wrap recyclers, contact the American Plastics Council (1-800 243-5790)

- Recycle plastic pallets. The HDPE pallets purchased by the Postal Service are reusable and can be recycled into new pallets. Work with the pallet manufacturer to establish a program for returning damaged or worn pallets for recycling. For example, Cadillac Products, Inc., located in Troy, MI, manufactures HDPE plastic pallets. As part of the purchase agreement, the company offers a buy-back program in which the company agrees to purchase the worn HDPE pallets for recycling. For more information on this program, contact Michael Moffitt at (810) 740-4005.

- Recycle HDPE mail trays. The metal content of the handles is a deterrent to recycling these containers. Postal Service Engineering, Research and Development (ERD) is working to identify an acceptable mechanism for recycling HDPE plastic mail trays.

Train Staff

- Train staff to identify and source separate different types of plastics (e.g., HDPE, LDPE, polystyrene). In addition, train staff in good management practices to prevent contamination of recyclable plastics.

Specify Plastic Items With Recycled Content

- Specify a minimum recovered content when requesting plastic products.

Rags

1. Material Sources

Rags are used at Postal Service facilities for general purpose cleaning, polishing, and wiping. More heavy duty shop towels are used in vehicle maintenance and for wiping or degreasing machinery. Some computer repair facilities require lint-free wiping cloths. Many Postal Service facilities purchase rags from GSA. These rags are made from fabric recovered from other federal operations.

2. Regulatory Issues

Rags that have been used for degreasing or cleaning using solvents may be considered a hazardous waste. Consult the state hazardous waste agency for guidance on appropriate management. Such rags should be managed in compliance with hazardous waste storage and disposal regulations.

3. Management Policies

The Postal Service preferred management practice for rags and shop towels is launder and reuse. Reusable towels are not to be discarded or landfilled.

4. Pollution Prevention Opportunities

Clean Used Rags

- Locate an industrial laundry service that will provide a closed loop service, picking up dirty rags for cleaning and providing clean rags for reuse. Most services will clean both dirty and oily rags. Rag cleaning services may not accept rags containing degreasers, solvents, or other chemicals, because of hazardous waste liability. Check with your state regulatory authority to determine which chemicals are regulated. In many cases a local launderer will know which chemicals are unacceptable. For cleaning up unacceptable chemicals, use disposable paper towels that can be removed from the facility as hazardous waste.

- Keep rags that have been used with chemicals separate from oily rags so that the oily or dirty rags can be cleaned and reused. Attention to source separation can decrease the volume and costs of hazardous waste management.

Train Staff

- Train employees to identify contaminants and to keep used rags separated for cleaning or disposal based on the solvents, cleaners, or oils on them.

Specify Recycled Rags

- GSA and commercial companies offer rags that have been made from old towels, sheets, uniforms and other clothing.

Shipping and Receiving Materials

1. Material Sources

Shipping and receiving wastes typically include cardboard boxes, pallets, shrink wrap, tape, strapping, and protective materials generated while transporting goods from a manufacturer to a user or from one location to another. Postal Service generates these materials in the movement of mail and stamp distribution as well as in routine distribution of equipment and supplies from Material Distribution Centers (MDC). Corrugated cardboard is the largest component of shipping and receiving wastes. See also material specific fact sheets on corrugated cardboard, wood, and plastic.

2. Regulatory Issues

Most shipping and receiving wastes will qualify as standard, nonhazardous solid waste. Some states mandate recycling and/or prohibit landfill disposal of corrugated cardboard, wood and other materials. Consult the appropriate state environmental agency to determine restrictions in your area. From an environmental standpoint, reducing shipping and receiving wastes will conserve natural resources (many shipping and receiving materials are made of wood and cardboard), and will substantially reduce disposal costs and stress on landfill capacity. Because shipping and receiving wastes are usually voluminous and heavy, removing these materials from the waste stream can have a substantial impact.

The Institute of Packaging Professionals (IoPP) has developed guidelines to help assess different packaging options and their impact on the environment. The guidelines cover the following topics: source reduction; recycling; degradability; disposal; and legislative considerations. The guidelines provide a detailed checklist to assess potential packaging changes and their impact on the environment and product integrity. For more information on packaging guidelines, contact The Institute of Packaging Professionals, 11800 Sunrise Valley Drive, Suite 212, Reston, VA 22091, Tel: 703-620-9380 or Fax: 703-391-6897.

3. Management Policies

The Postal Service stresses waste prevention in all of its activities. For example, the Postal Service has a strong policy regarding reduction of cardboard and packaging waste, a primary component of shipping and receiving wastes. Affirmative procurement is required by the Resource Conservation and Recovery Act (RCRA) and Executive Order 12780.

4. Pollution Prevention Opportunities

Reduce Packaging

- Packaging reduction involves rethinking the process of packaging and shipping to find ways to eliminate unnecessary packaging and the amount of packaging that is ultimately disposed.

- The primary way to reduce excess packaging materials is to choose packaging that matches as precisely as possible the product's size, weight, shape, fragility, filling requirements, pallet pattern, warehousing needs, and mode of shipment. When redesigning packaging, care should be taken to avoid an increase in secondary or tertiary packaging to protect the integrity of the product.

- Other examples of packaging reduction include:

  - Assessing all packaging components to see if any can be eliminated.
  - Redesigning products and packaging so that packaging is integrated into or consumed along with the product.

- Eliminating multiple packaging, (e.g., avoiding use of both strapping and shrink wrap where only one is actually required).
- Shipping products in padded vehicles to reduce the amount of packaging needed.
- Replacing a number of smaller packages with a single, large, more efficient package size.
- Finding the optimum mix of primary, secondary, and tertiary packaging to achieve an overall net reduction in packaging.
- Matching product size to container size to reduce packaging requirements.
- Consolidating outgoing materials to reduce box use and packaging needs.

To further reduce shipping and receiving wastes, use your purchasing power with suppliers to reduce incoming packaging and shipping materials. Often, this may be accomplished by buying in bulk. Procurement specifications can require recycled content in products.

Reuse Packaging

- It is always preferable to minimize packaging. However, in cases where packaging is necessary, the next best step is to reuse the packaging. Some examples of shipping and receiving material reuse include:

  - Reusing incoming shipping and receiving materials in outgoing shipments.
  - Using shredded waste paper for cushioning material as an alternative to purchasing packing pea nuts.
  - Donating pallet wood for reuse by employees or local community organizations.
  - Substituting durable plastic pallets for wooden pallets.
  - Returning unneeded pallets, boxes, and packaging materials to suppliers for reuse.
  - Procuring packing, shipping, and receiving materials through waste exchanges.

- Waste exchanges are one of the most efficient material reuse methods. In a waste exchange, unneeded shipping and receiving materials are transferred to other agencies or businesses that currently purchase these materials. The materials can be either new or used.

Recycle Shipping and Receiving Wastes

- Recycling of shipping and receiving wastes is a viable means of reducing waste and returning materials to productive use. Unusable boxes, plastic shrink wrap, pallets, and paper packaging material can be recycled.

- Packaging waste should be segregated to avoid contamination, and procurement officials should seek to buy the most recyclable materials, preferably packing materials composed of a single-material.

Specify Materials With Recycled Content

- Most shipping and receiving materials are available with recycled content. Purchasing recycled content products reduces solid waste generation, conserves energy, and supports markets for materials collected for recycling. Cardboard boxes, plastic pallets, strapping, bubblewrap, foam cushioning material, shredded paper, and protective paper are all available with recycled content. Many companies and government facilities already specify that suppliers use recycled content shipping and receiving materials.

- Corrugated packing materials are increasingly available with high recycled-fiber content, with a 59 percent recovery rate for all corrugated products. Over 50 percent of the recovered corrugated product is used to make containerboard for new containers. The remaining corrugated is used in folding cartons; in construction, paper, and other packaging products; or exported.

Surplus Equipment

1. Material Sources

Postal Service facilities generate obsolete, used, and surplus equipment including, but not limited to, computers and computer peripherals (*e.g.*, obsolete mainframes, keyboards, monitors, circuit boards, or software); mail sorting and distribution equipment; vehicle parts; small electronic equipment; containers and pallets; office equipment (*e.g.*, fax machines, adding machines, and typewriters); and furniture (*e.g.*, desks, chairs, lamps, and tables).

2. Regulatory Issues

Regulatory issues associated with obsolete, used, or surplus equipment will vary significantly based on the type of equipment. Contact the state solid or hazardous waste regulatory agency for guidance on management of specific items. For example, used computers and computer parts may be subject to regulation because of heavy metals. Vehicle parts, such as radiators, should be completely drained to assure they do not become a state regulated hazardous waste.

3. Management Policies

The Postal Service is committed to reducing waste by repairing and/or redistributing surplus and used equipment. The Postal Service has established two regional repair and redistribution facilities that accept surplus equipment from Postal Service facilities and repair and redistribute the equipment on an as needed basis. The Postal Service also has an auction policy that allows the auction of significant quantities of obsolete or excess equipment.

4. Pollution Prevention Opportunities

Evaluate Purchasing Practices

- Conduct an audit of surplus materials, determine what materials are consistently in surplus supply, and refine purchasing, distribution, and storage practices accordingly.

Refine Purchasing Practices

- Once an audit of purchasing practices had been conducted, the next step is to refine purchasing practices. Changing purchasing practices so that materials are only purchased on an as-needed basis will help reduce surplus materials. Also, scheduling regular deliveries of materials on a just-in-time basis will help to ensure that materials do not expire on the shelf, or that they are not put in storage and new supplies ordered before existing supplies are depleted.

Participate in USPS Repair and Redistribution Program

- Inventory surplus materials and contact your regional Postal Service repair and redistribution facility to determine which materials they will accept. This system also can be used to procure used and equipment and supplies.

Participate in Other Waste and Materials Exchanges

- The EPA helped create the National Materials Exchange Network (NMEN), which is now funded and overseen by Earthcycle. The NMEN is a free local and international on-line marketplace for trading and recycling used and surplus materials and goods. NMEN's material categories include solvents, plastic and rubber, textile and leather, wood and paper, laboratory chemicals, containers and pallets, paint and

coating, automotive parts, computer components and semiconductors, construction equipment and parts, other durable and electronic equipment, furniture and appliances, and manufacturing and processing equipment and parts. The NMEN database has over 10,000 local and international listings. For further information contact Bob Smee via e-mail at nmen@eznet.com or at 509-466-1532.

Recycle Surplus and Used Equipment

- Virtually every type of surplus/used equipment or supplies has some recycling value if it cannot be repaired and/or reused. Consult your local telephone directory for a list of recycling companies; contact NMEN at the above number; contact the Global Recycling Network at 516-286-5580 (http://grn.com/grn/), or call 800-94-REUSE for further information regarding recycling used/surplus supplies and equipment.

Used Tires

1. Material Sources

The Postal Service operates a fleet of more than 200,000 Postal Service-owned vehicles and is a major generator of used tires. Used or scrap tires are generated primarily in the Postal Service vehicle maintenance facilities (VMFs). Worn or damaged tires on vehicles in the Postal Service fleet are replaced, thus generating used passenger, light truck, and heavy-duty truck tires.

2. Regulatory Issues

Tires in any form (whole, split, or shredded) are banned from landfill disposal in 23 states. Nine additional states ban landfilling of whole tires; in these states, tires can be landfilled if they are first processed in some way. Some states require tire dealers to take back used tires with the purchase of new tires. Check with the appropriate state agency to determine the restrictions in your area. If tires are accepted at a landfill, an extra fee is often charged for their disposal.

EPA has issued a federal Procurement Guideline for Retreaded Tires. The guideline recommends that agencies establish preference programs for tire repair and retread services that conform to federal Specification ZZ-T-441H and obtain retreading services from retreaders participating in the GSA federal Tire Program Quality Assurance Facility Inspection Program (QAFIP). In addition, EPA recommends that agencies purchase retreaded tires that meet the requirements of federal Specification ZZ-T-381 and are listed on the Qualified Products List.

3. Management Policies

Postal Service policy urges postal managers to pursue local tire recycling options. Acceptable options may include: retreading or recapping decent quality tires for reuse; or recycling tire rubber for reuse in other rubber products or in rubberized asphalt paving materials.

4. Pollution Prevention Opportunities

Perform Regular Preventive Maintenance

- Performing regular maintenance on tires ensures that tires are properly inflated at all times. Slightly underinflated tires lead to excess wear. Tire pressure should be checked frequently.

Only Replace Tires That Are Worn or Damaged

- When tires need to be replaced, only replace those that are worn or damaged, rather than replacing all of the vehicles tires at once. It should be noted that normal accepted practice is that new tires usually are mounted on the steering axle and, after retreading, are then mounted on the drive axle or trailers.

Repair or Retread Used Tires

- Identify companies that will take used tires to be repaired if damage is minimal, or to be retreaded if the tire casing is still usable. Most tires are replaced because tread is worn. In these instances, the tire casing is often in good condition and can be remanufactured with new tread.

- Close the recycling loop whenever possible by having tires retreaded and returned to the Postal Service for reuse. GSA-specified tire retreaders can retread tires and return them to the Postal Service for reuse on fleet vehicles.

Buy Retreaded Tires For Fleet Vehicles

- When tires need replacing, purchase retreaded replacement tires. The Postal Service can specify that retread tires meet the requirements of federal Specification ZZ-T-381, "Tires, Pneumatic, Vehicular (Highway) (New and Retreaded)," and be listed on Qualified Products List QPL-ZZ-T-381. In addition, the Postal Service can require bidders to submit a copy of their current certification under the GSA federal Tire Program's Quality Assurance Facility Inspection Program.

Recycle Used Tires

- If tires are too damaged for reuse or retreading, identify companies that will transport tires to a recycling or energy recovery facility. Tires can be used whole as bumpers or erosion-control devises; ground into crumb rubber for use in asphalt paving or rubber products; or shredded or used whole as a source of fuel in several types of facilities, such as cement kilns, pulp and paper mills, and utility boilers. These are just a few uses of scrap tires.

Train Staff

- Vehicle operators should be made aware of driving habits that may decrease the life of vehicle tires. These include fast stops and starts, driving over the speed limit, cornering at high speeds, driving on excessively rough roads, and curbing tires.

- Train vehicle maintenance staff in identifying signs of wear, when to service tires, and how much tread is necessary for a safe ride.

Used Oil

1. Material Sources

The primary source of used oil is maintenance and repair activities related to Postal Service vehicles. These activities generate automotive lubricating oils and transmission fluid. Equipment maintenance and repair is the other significant source of used lubricating oils including compressor, turbine and bearing oil, hydraulic oils, metal working oils, electrical oils, gear oils, and refrigerator oil.

2. Regulatory Issues

Used oil is not classified as hazardous unless it has been mixed with a characteristic waste; however, some states regulate used oil as a hazardous waste or as a "special" waste. Some states also mandate recycling used oil. Check with the appropriate state environmental agency to determine how used oil is classified in your state.

Used oil shipped off-site for reclamation in quantities greater than 55 gallons must be transported by carriers holding valid EPA identification. numbers.

EPA has established a Procurement Guideline for Lubricating Oil. Executive Order 12873 directs agencies to develop and implement affirmative procurement programs for EPA guideline items. EPA recommends procurement of lubricating oil with a minimum 25 percent re-refined oil and provides guidance in selection of specifications.

3. Management Policies

Postal Service policy on management of used oil stresses waste prevention. Volume reduction can be addressed through improved housekeeping and changes in management practices.

Postal Service facilities should purchase re-refined oil wherever possible, with preference for a closed-loop system in which the used oil is re-refined and returned to the facility. An alternative management option is burning used oil to heat the facility. Finally, used oil can be incinerated to generate heat energy.

4. Pollution Prevention Opportunities

Eliminate Contamination

- Solvents and other products improperly disposed in the used oil storage container create a hazardous waste that must be managed, transported, and disposed at considerable cost. Keep containers closed and locked, if necessary. Train technicians in source separation and good housekeeping practices to minimize leaks, spills, and contamination of recyclable oil.

Purchase Re-refined Oil

- Used lubricating oils that have been re-refined through an API certified process do meet available performance standards. Have the vendor certify that the re-refined oil meets EPA guidelines.

Recycle in a Closed-Loop Program

- Used oil must be source separated for recycling. In a closed-loop arrangement, a re-refiner contracts to collect the facility's used oil, re-refine it, and return it for reuse. In a quasi-closed-loop arrangement, the re-refiner contracts to remove the facility's used oil for re-refining and to supply re-refined oil; the oil supplied may or may not have been produced from the facility's used oil. If a closed loop arrangement

is not possible, seek a contractual agreement with a re-refiner who will collect the used oil for reclamation.

Use As Heating Fuel

If re-refining is not possible, alternate opportunities exist including on-site heat recovery. This and other alternate methods may increase the regulatory compliance burden on the facility. Prior to selection and implementation of any alternative method for handling waste oil, approval from the district environmental compliance coordinator must be obtained.

Used Oil Filters

1. Material Sources

The primary component of used oil filters is steel. The metal components, including the canister, mounting plate, springs, clips, valves, and steel support tube, weigh nearly one pound. The actual filtration medium is pleated paper that remove engine oil contaminant particles as small as 10 microns. Another significant component of a used oil filter is the used oil. Filters may also contain neoprene gaskets and other plastic parts.

A majority of the oil filters generated by Postal Service operations come from maintenance of the vehicle fleet. Filters also may be generated from maintenance of conveyor and tow line motors.

2. Regulatory Issues

EPA regulations allow management of non-terne plated[1], properly drained oil filters as a solid waste. EPA promotes recycling as the preferred management option.

Most states follow EPA regulations for used oil filter management; some states have adopted more stringent regulations. Also, some states have specific requirements for tracking from point of generation though final disposition, record keeping, and reporting.

3. Management Policies

Most Postal Service facilities now drain oil filters to recover recyclable oil. With improved technology and growing markets, recycling used oil filters is a readily available option. For each ton of filters, 60 gallons of used oil and 1,700 pounds of steel can be reclaimed. As part of the Postal Service's waste prevention efforts, facilities are encouraged to make arrangements for recycling used oil filters.

4. Pollution Prevention Opportunities

Properly Drain Used Oil Filters

- Before filters are processed they must be hot-drained (drained at near engine temperature and above room temperature). EPA requirements for hot-draining used oil filters can be accomplished by any of the following methods:

  - puncture the filter dome or anti-drain back valve and hot drain for at least 12 hours;
  - hot drain the filter and crush;
  - dismantle the filter and hot drain; or
  - any other equivalent hot-draining method that will adequately remove used oil.

Properly Store Used Oil Filters

- Store in a cool, dry space, in an approved oil filter storage container that will collect any used oil that escapes from the filters.

Select a Filter Management Service and Recycle Used Oil Filters

- The filter hotline, *1-800-99-FILTER (993-4583),* sponsored by the Filter Manufacturers Council, is a toll-free service. Callers receive a summary of their state's filter management regulations, a referral to the state governing agency, and referrals to local companies that provide filter management services. The hotline operates Monday through Friday between 9 a.m. and 6 p.m. EST.

- Callers also may request a copy of the brochure entitled *How to Choose a Filter Management Service*. This brochure recommends basic questions such as:

- What is the ultimate disposition of the filters (*e.g.*, are they recycled, and if so, into what, or are they disposed in a landfill)?

- What requirements must you meet to satisfy the transporter's, processor's, and recycler's specifications for the filters? Some recyclers require that filters be crushed prior to recycling. Compaction may reduce storage space and requirements and enhance the recycling process.

- What other companies are handling your filters? Do all companies involved in handling the filters have general liability and environmental insurance? Do the companies have appropriate licenses and permits, relating to handling and managing used filters, required by state and/or federal regulations?

Wood

1. Material Sources

Wood wastes are generated primarily in the movement of bulk mail and the Postal Service's shipping and receiving operations. The main sources of wood waste are old wood pallets (primarily pine pallets) and wood from shipping crates. Wood may also enter the waste stream from construction and repair projects.

2. Regulatory Issues

Some states ban wood from landfill disposal or mandate its recycling. Check with the appropriate state environmental agency to determine management policy for your area. Wood from shipping and receiving operations qualifies as solid waste and may be managed accordingly. However, treated wood may pose problems if it is to be used in a mulch or composting application.

3. Management Policies

Postal Service stresses waste prevention in all of its activities. Procurement of more durable, reusable pressed wood and plastic pallets and crates and the recycling of wood materials are mechanisms the Postal Service can use to achieve its waste prevention goals.

4. Pollution Prevention Opportunities

Purchase or Negotiate Agreements for Reusable Pallets

- Purchase or lease reusable plastic or pressboard pallets for distribution of bulk mail and supplies.

- Encourage vendors and distribution centers to establish a pallet take-back program.

Participate in a Pallet Pool

- Pallet pools have also proved to be an effective avenue for pallet reuse. Pallet pools are rental systems where the pallet rental service provides pallets (usually wooden) to a manufacturer who uses the pallet to transport goods. The distributor receiving the goods then returns the pallet to the rental service. The pallet rental service repairs and cleans the pallets and rents them back to manufacturers or distribution centers, greatly reducing waste and the need for new pallets. Manufacturers and distributors benefit from this exchange in several ways:

  - The pool reduces the need to purchase new pallets.
  - Products are not damaged, because the pallets are maintained in good condition.
  - Storage space requirements for pallets are reduced.
  - Administrative costs are reduced because the rental service is responsible for tracking pallets.

- For additional information on pallet pools and other issues related to pallets, contact The National Wood Pallet and Container Association (NWPCA) at 703-527-7667.

Purchase Reusable Shipping Crates and Containers

- Purchase or lease durable, reusable distribution packaging such as refillable plastic or wire bins for all deliveries.

- Encourage or require suppliers and distribution centers to ship their products in reusable containers and to take the containers back or use them for backhauling.

- Where similar types of items are repeatedly shipped, use custom designed, reusable shipping crates.

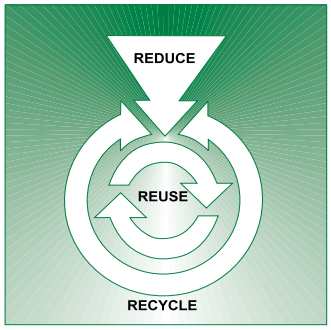
Specify Recycled-Content Pallets

- Use recovered-content plastic or recovered-content pressboard or cardboard pallets.
- Plastic and pressboard pallets have the added incentive that they are reusable.

Recycle Wood Materials

- Even where reusable and/or recycled-content pallets and crates are in use, or when take-back arrangements are in place, a back-up wood recycling contract should be established.
- Wood pallets and shipping crates are easily recyclable into pressboard or mulch or composting materials. Consult your local telephone directory for a list of recycling companies; contact the National Materials Exchange Network (NMEN) at (509) 466-1532; contact the Global Recycling Network at (516)-286-5580 (http://grn.com/grn/); or call 1-800-94-REUSE for further information regarding recycling of used wood.
- Ensure that an efficient program is in place to separate pallets and crates from other recyclable materials, such as corrugated cardboard, plastic bags, shrink and stretch wrap, and plastic strapping.

[1] Terne is an alloy of tin and lead; terne-plated oil filters destined for disposal, rather than recycling as scrap metal, must be managed as hazardous waste, since they fail lead testing.



Appendix E

Chemical/Product Lists

Chemical/Product Lists

Table of Contents

EPA 17 Targeted Chemicals and Associated Compounds

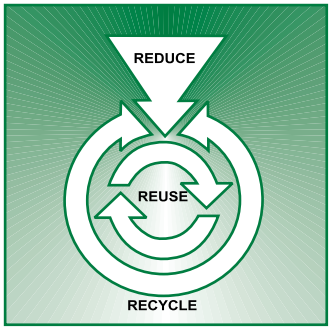
Chemicals & Compounds	CAS #
Benzene	**71-43-2**
Cadmium	7440-43-9
Cadmium Acetate	543-90-8
Cadmium Bromide	7789-42-6
Cadmium Chloride	10108-64-2
Cadmium Oxide	1306-19-0
Cadmium Stearate	2223-93-0
Carbon Tetrachloride	**56-23-5**
Chloroform (trichloromethane)	**67-66-3**
Chromium	**7440-47-3**
Chromic Acetate	1066-30-4
Chromic Acid	11115-74-5
Chromic Acid	7738-94-5
Chromic Chloride	10025-73-7
Chromic Sulfate	10101-53-8
Chromous Chloride	10049-05-5
Cyanide	**57-12-5**
Hydrogen Cyanide	**74-90-8**
Cyanogen	460-19-5
Cyanogen Bromide	506-68-3
Cyanogen Chloride	506-77-4
Cyanogen Iodide	506-78-5
Lead	**7439-92-1**
Lead Acetate	301-04-2
Lead Arsenate	7784-40-9
Lead Arsenate	7645-25-2
Lead Arsenate	10102-48-4
Lead Chloride	7758-95-4
Lead Fluoborate	13814-96-5
Lead Fluoride	7783-46-2
Lead Iodide	10101-63-0
Lead Nitrate	10099-74-8
Lead Phosphate	7446-27-7
Lead Stearate	7428-48-0
Lead Stearate	1072-35-1

Chemicals & Compounds	CAS #
Mercury	**7439-97-6**
Mercuric Acetate	1600-27-7
Mercuric Chloride	7487-94-7
Mercuric Cyanide	592-04-1
Mercuric Nitrate	10045-94-0
Mercuric Oxide	21908-53-2
Mercuric Sulfate	7783-35-9
Mercuric Thiocyanate	592-85-8
Mercurous Nitrate	10415-75-5
Mercurous Nitrate	7782-86-7
Mercury Fulminate	628-86-4
Methylene Chloride (dichloromethane)	**75-09-2**
Methyl Ethyl Ketone	**78-93-3**
Methyl Isobutyl Ketone	**108-10-1**
Nickel	**7440-02-0**
Nickel Ammonium Sulfate	15699-18-0
Nickel Carbonyl	13463-39-3
Nickel Chloride	7718-54-9
Nickel Chloride	37211-05-5
Nickel Cyanide	557-19-7
Nickel Hydroxide	12054-48-7
Nickel Nitrate	14216-75-2
Nickel Sulfate	7786-81-4
Tetrachloroethylene (perchloroethylene)	**127-18-4**
Toluene	**108-88-3**
1.1.1 - Trichloroethane (methyl chloroform)	**71-55-6**
Trichloroethylene	**79-01-6**
Xylenes (all xylenes)	**1330-20-7**
Xylene (-a)	103-38-3
m-Xylene	108-38-3
o-Xylene	95-47-6
p-Xylene	106-42-3
Xylenol	1300-71-6
2,6-Xylidine	87-62-7
Xylylene Dichloride	28347-13-9

Affirmative Procurement Requirements for Recovered Content Under Executive Order 12873 and RCRA 6002a

Product	Post Consumer Recovered Content[1]
Paper	
High grade bleached printing and writing paper	50%
Mimeo and duplicator paper	50%
Computor Paper	50%
Envelopes	50%
Toner Cartridges	remanufactured or made with recovered material
Tissue Products	
Toilet tissue	20%
Paper towels	40%
Paper napkins	30%
Facial tissue	5%
Unbleached Packaging	
Corrugated boxes	35%
Vehicular Products	
Lubricating oil (re-refined oil)	25%
Engine coolant	reclaimed coolant
Tires	retread tires
Construction Products	
Fiberglass (glass cullet)	20-25%
Cellulose loose-fill and spray-on (postconsumer paper)	75%
Structural fiberboards	80-100%
Laminated paperboards	100%
Cement and concrete (coal fly ash)	0-40%
Cement and concrete (ground granulated blast furnace slag)	25-50%
Polyester carpet face fiber (PET resin)	25-100%
Patio blocks (rubber and rubber blends)	90-100%
Patio blocks (plastic or plastic blends)	90-100%
Floor tiles (rubber)	90-100%
Floor tiles (plastic)	90-100%
Transportation Products	
Traffic cones (PVC, LDPE, Crumb Rubber)	50-100%
Traffic barricades (HDPE, LDPE, Pet Steel)	80-100%
Traffic barricades (fiberglass)	100%
Park and Recreation Products	
Playground surfaces (rubber or plastic)	90-100%
Running tracks (rubber or plastic)	90-100%
Landscaping Products	
Paper-based hydraulic mulch (postconsumer recovered paper)	100%
Wood-based hydraulic mulch (recovered wood and/or paper)	100%
Non-Paper Office Products	
Office recycling containers and waste receptacles (plastic)	20-100%
Office recycling containers and waste receptacles (steel)	25-100%
Plastic desktop accessories (polystrene)	25-80%
Plastic-covered binders (plastic)	25-50%
Chipboard, paperboard, pressboard binders	80%
Plastic trash bags	10-100%

[1] List includes newly listed materials effective May 31, 1996



Appendix F

Annual Waste Management Tracking Forms

Vehicle Maintenance Facility

Waste Management Tracking Report Forms

VEHICLE MAINTENANCE FACILITY
WASTE MANAGEMENT TRACKING REPORT FORMS
NOTES AND INSTRUCTIONS

The following Waste Management Tracking Report Forms (formerly called the Annual Waste Disposal Survey) have been provided in both hard copy and electronic format (Excel). If you have not received the electronic version, please contact your district environmental coordinator to obtain a diskette. This electronic version is provided to assist you with compiling the data for annual submittal. The monthly tracking forms are designed to automatically transfer information to and from the annual form. Monthly forms should be filled out at the end of each month. In order to efficiently utilize these forms the following steps should initially be taken:

1) Create an electronic "Master Copy" of this file as a backup and also for future years' submittals.
2) Complete **all** facility information (before question #1) on the "Annual(A)" form. Be sure to type the information in the first cell of the line provided, this will allow the information to be automatically transferred to all monthly forms.

[Note that policy or process changes noted on the monthly forms are not automatically transferred into the annual form.]

*If possible, submit the annual form to your area environmental compliance coordinator in electronic format.

Facility Name and Address:

For collocated facilities and auxiliary garages, each individual facility needs to prepare a separate tracking report. Do not double count waste streams.

Question #2 (Annual Form):

The 17 targeted chemicals are:

Benzene (in gasoline)
Cadmium and Cadmium Compounds (paints, metal grinding)
Carbon Tetrachloride (laboratory chemical, rubber manufacturing)
Chloroform (cleaner)
Chromium and Chromium Compounds
Cyanide and Cyanide Compounds (metal plating)
Lead and Lead Compounds (lead seals, solders, paints)
Mercury and Mercury Compounds (thermometers, light ballasts)
Methylene Chloride (paint stripper)
Methyl Ethyl Ketone (paints and strippers)
Methyl Isobutyl Ketone (paints and solvents)
Nickel and Nickel Compounds (metal plating)
Tetrachloroethylene (equipment cleaner, degreaser)
Toluene (equipment cleaner, degreaser)
1,1,1-Trichloroethylene (TCA) (equipment cleaner)
Trichloroethylene (TCE) (equipment cleaner)
Xylenes (paints)

Note: Appendix F of the *Pollution Prevention Handbook*, AS-552 provides a more detailed list of compouns associated with the 17 targeted chemicals.

Question #3 (Annual Form):

Nonhazardous cleaners, typically referred to as aqueous-based cleaners, are cleaners that do not contain one or more of the 17 targeted chemicals.

Low VOC paints are typically those paints with a VOC content of less than 50 percent VOC or contain less than 3.5 pounds per gallon of coating minus water. There are various state-specific VOC-RACT

(Reasonably Available Control Technology) requirements for coatings. Refer to your district environmental compliance coordinator for state-specific requirements.

Question #5 (Annual Form):

Environmentally preferable products or services are defined as products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. Examples include:

- Products that do not contain any of the 17 targeted chemicals;
- Products with no ozone-depleting substances (ODS);
- Products that contain increased percentage of recycled content (minimum 50 percent recovered materials and 20 percent post consumer materials to increase to 30 percent post consumer materials by 1988) and that are readily recyclable.

Question #7 (Annual Form) (#4 on Monthly Form):

Waste Category **-** These categories describe the typical waste streams generated at the postal facilities. If a waste stream is not generated at your facility, mark the total amount generated column with "NA" for not applicable. Where certain waste streams are a mixture of more than one material, please add to the waste category those other materials present. For example, at some P&DCs oil, ink, and alcohol are combined. Select the material that represents the majority of the mixture (e.g., oil) and add to the used oil waste category line "used oil/ink/alcohol". If actual numbers are not available for a given waste stream, use a best estimate based on purchase records and remaining stock.

Parts solvent is VOC-containing solvent and includes all part, brake, and carburetor solvents. This solvent is different from the **parts wash water** which **is** aqueous-based, low VOC, or non-VOC cleaners, and not typically considered hazardous waste.

Paint solvent is solvent such as thinner used for cleaning the paint spray guns and thinning the paint. This material may be mixed with waste paint. **Solvent or oil-based paint** is the actual paint that is no longer usable and is being discarded. This paint is considered VOC-based or oil-based and is not water-based.

Batteries refers to how many vehicle or machine batteries exchanged during the fiscal year.

Tires includes the total number of tires that were either retreaded or otherwise recycled.

PCB ballasts are those ballasts from lighting fixtures that do not have a label stating that they are "PCB-free".

Mercury-containing lamps includes the light bulbs or tubes from fluorescent lamps.

Cardboard, **white paper**, **mixed paper**, **wood, plastic**, **scrap ferrous,** and **aluminum** refers to those materials not placed in the trash. **Mixed trash** is the materials placed in the dumpster and hauled off-site to a solid waste/municipal landfill.

Waste pesticides are pesticides that are no longer being used or have expired shelf lives and are being disposed of.

Other category is for any other waste streams that are not specifically mentioned in the categories above. Examples include switches.

Total Amount Generated **-**This is the total amount of the given waste category that has been tracked. Total amounts generated for the waste categories cardboard, white paper, mixed paper,

wood, plastic and aluminum does not include wastes placed in the trash. Waste placed in the solid waste dumpster is considered separately. In addition, aluminum waste does not include metal cans (e.g., soda and juice cans) being recycled.

Amount of the Waste Stream That Was Hazardous - Records should be maintained throughout the year on the amount of state and federal hazardous waste generated and removed by a hazardous waste contractor or taken to a hazardous waste disposal site. Manifest records kept on file are a source for this information. Note that waste streams including oil and antifreeze, not typically considered a hazardous waste, may exhibit a characteristic of hazardous waste when not properly managed. Therefore, during the course of the year, a facility may have a portion of its waste oil transported off-site as hazardous and the remaining portion managed as nonhazardous waste.

Amount of Waste Stream Reused/Recycled - This is the amount of the hazardous or nonhazardous waste stream generated that was recycled or reused and not disposed of. Records should be maintained throughout the year on the amount of waste that was sent out to be recycled or recycled on-site. *Use actual amounts for this column, do not give percentages.*

Cost of Hazardous Waste Disposal - This is the cost of off-site transportation, treatment, and disposal of hazardous waste. This information should be in the facility's financial records and is typically shown as a vendor service. In addition, refer to appropriate manifests if information is not readily available.

Revenue or Cost(-) of Recycling - This information should be available in the financial records. This is the amount paid out to contractors (a cost) and the amount of money received from contractors (revenue) for recycling. Examples of recycling costs include amount paid to a vendor to recycle batteries or retread tires. Examples of recycling revenues include amount received from a vendor or recycler for scrap metal or cardboard. *If a cost is associated with this item, indicate by enclosing enclosing the amount in parenthesis.*

Total Revenue or Cost (Disposal + Recycling) - Add together the **Cost of Hazardous Waste Disposal** and the **Revenue or Cost(-) of Recycling** columns to get this item. *If a cost is associated with this column, indicate this by enclosing the amount in parenthesis.*

VEHICLE MAINTENANCE FACILITY
ANNUAL WASTE MANAGEMENT TRACKING REPORT
UNITED STATES POSTAL SERVICE

Fiscal Year _____

Facility Name and Address:

VMF Yes _____ No _____
Auxiliary Garage Yes _____ No _____

Facility Name: _____
Street Address: _____
City: _____
State: _____
Zip Code: _____ - _____
VMF Manager: _____
Telephone: _____
Fax: _____

Person Completing Form:

Name: _____ *Finance No:* _____
Title: _____ *(Facility Specific)*
Phone #: _____ *Sublocation No:* _____
Fax #: _____ *(Building Specific)*
District Name: _____

#1: How many vehicle services (total) did you perform in the fiscal year? _____
(Vehicle services include scheduled and unscheduled maintenance, accident, and vandalism repair).

#2: Since 1992, what is the range your facility has reduced the use of the 17 targeted hazardous chemicals? (See Notes).

(Mark an "X" next to the answer that best represents your facility)

a. None or a small amount _____
b. 25% or more _____
c. 50% or more _____
d. 75% or more _____

#3: Does your facility use any of the following pollution prevention products or strategies? Mark appropriate column with an "X". (If the item is not relevant to your facility operations, put an "X" under Not Applicable)

	Yes	No	Not Applicable
a. Nonhazardous parts washing cleaners or systems?			
b. Nonhazardous brake washing cleaners or systems?			
c. If you have an active spray paint operation, do you use a:			
High Volume-Low Pressure (HVLP) spray paint gun?			
Low-volatile organic compound (VOC) Paints?			
d. On-site antifreeze recycling equipment?			
e. Bio-remediation of oil/water separator?			
f. Re-refined oil?			
g. Oil filter recycling?			
h. Other? Specify _____			
i. Other? Specify _____			
j. Other? Specify _____			

#4: Does your facility purchase retreaded tires?

Yes _____ No _____ If yes, how many during the year? _____

#5: Does your facility follow a standard operating procedure for the purchase of environmentally preferable products?

Yes _____ No _____ If yes, please attach a written copy.

#6: Has your facility made any policy and/or process changes in the last year that have promoted pollution prevention?

Yes _____ No _____

If yes, please describe.

#	Policy/Process Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#7: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream That Was Hazardous	Amount of Waste Stream Reused/ Recycled	(Cost) of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (eg. PCB & other)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

#8: Remarks

VEHICLE MAINTENANCE FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
JANUARY

Facility Name and Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

VMF Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: How many vehicle services (total) did you perform this month? _____
(Vehicle services include scheduled and unscheduled maintenance, accident, and vandalism repair).

#2: If your facility purchases retreaded tires,
how many were purchased this month? _____

#3: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?
Yes _____ No _____

If yes, please describe.

#	Policy or Process Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#4: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row.

Waste Category	Unit of Measure	Total Amount Generated JANUARY	Amount of Waste Stream That Was Hazardous**	Amount of Waste Stream Reused/ Recycled**	(Cost) of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (eg. PCB & other)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash
** Do not use percentages

VEHICLE MAINTENANCE FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
FEBRUARY

Facility Name and Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

VMF Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: How many vehicle services (total) did you perform this month? _____
(Vehicle services include scheduled and unscheduled maintenance, accident, and vandalism repair).

#2: If your facility purchases retreaded tires,
how many were purchased this month? _____

#3: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?
Yes _____ No _____

If yes, please describe.

#	Policy or Process Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#4: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream That Was Hazardous**	Amount of Waste Stream Reused/ Recycled**	(Cost) of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (eg. PCB & other)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash

** Do not use percentages

VEHICLE MAINTENANCE FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
MARCH

Facility Name and Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

VMF Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: How many vehicle services (total) did you perform this month? _____
(Vehicle services include scheduled and unscheduled maintenance, accident, and vandalism repair).

#2: If your facility purchases retreaded tires,
how many were purchased this month? _____

#3: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?
Yes _____ No _____

If yes, please describe.

#	Policy or Process Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#4: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream That Was Hazardous**	Amount of Waste Stream Reused/ Recycled**	(Cost) of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (eg. PCB & other)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash
** Do not use percentages

VEHICLE MAINTENANCE FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
APRIL

Facility Name and Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

VMF Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: How many vehicle services (total) did you perform this month? _____
(Vehicle services include scheduled and unscheduled maintenance, accident, and vandalism repair).

#2: If your facility purchases retreaded tires,
how many were purchased this month? _____

#3: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?
Yes _____ No _____

If yes, please describe.

#	Policy or Process Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#4: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream That Was Hazardous**	Amount of Waste Stream Reused/ Recycled**	(Cost) of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (eg. PCB & other)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash

** Do not use percentages

VEHICLE MAINTENANCE FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
MAY

Facility Name and Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

VMF Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: How many vehicle services (total) did you perform this month? _____
(Vehicle services include scheduled and unscheduled maintenance, accident, and vandalism repair).

#2: If your facility purchases retreaded tires,
how many were purchased this month? _____

#3: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?
Yes _____ No _____

If yes, please describe.

#	Policy or Process Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#4: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream That Was Hazardous**	Amount of Waste Stream Reused/ Recycled**	(Cost) of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
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Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (eg. PCB & other)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash
** Do not use percentages

VEHICLE MAINTENANCE FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
JUNE

Facility Name and Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

VMF Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: How many vehicle services (total) did you perform this month? ☐
(Vehicle services include scheduled and unscheduled maintenance, accident, and vandalism repair).

#2: If your facility purchases retreaded tires,
how many were purchased this month? ☐

#3: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?
Yes _____ No _____

If yes, please describe.

#	Policy or Process Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#4: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream That Was Hazardous**	Amount of Waste Stream Reused/ Recycled**	(Cost) of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (eg. PCB & other)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash

** Do not use percentages

VEHICLE MAINTENANCE FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
JULY

Facility Name and Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

VMF Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: How many vehicle services (total) did you perform this month? _____
(Vehicle services include scheduled and unscheduled maintenance, accident, and vandalism repair).

#2: If your facility purchases retreaded tires,
how many were purchased this month? _____

#3: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?
Yes _____ No _____

If yes, please describe.

#	Policy or Process Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#4: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream That Was Hazardous**	Amount of Waste Stream Reused/ Recycled**	(Cost) of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (eg. PCB & other)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash

** Do not use percentages

VEHICLE MAINTENANCE FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
AUGUST

Facility Name and Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

VMF Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: How many vehicle services (total) did you perform this month? _____
(Vehicle services include scheduled and unscheduled maintenance, accident, and vandalism repair).

#2: If your facility purchases retreaded tires,
how many were purchased this month? _____

#3: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?
Yes _____ No _____

If yes, please describe.

#	Policy or Process Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#4: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream That Was Hazardous**	Amount of Waste Stream Reused/ Recycled**	(Cost) of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (eg. PCB & other)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash
** Do not use percentages

VEHICLE MAINTENANCE FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
SEPTEMBER

Facility Name and Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

VMF Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: How many vehicle services (total) did you perform this month? _____
(Vehicle services include scheduled and unscheduled maintenance, accident, and vandalism repair).

#2: If your facility purchases retreaded tires,
how many were purchased this month? _____

#3: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?
Yes _____ No _____

If yes, please describe.

#	Policy or Process Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#4: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream That Was Hazardous**	Amount of Waste Stream Reused/ Recycled**	(Cost) of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (eg. PCB & other)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash
** Do not use percentages

VEHICLE MAINTENANCE FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
OCTOBER

Facility Name and Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

VMF Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: How many vehicle services (total) did you perform this month? _____
(Vehicle services include scheduled and unscheduled maintenance, accident, and vandalism repair).

#2: If your facility purchases retreaded tires,
how many were purchased this month? _____

#3: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?
Yes _____ No _____

If yes, please describe.

#	Policy or Process Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#4: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream That Was Hazardous**	Amount of Waste Stream Reused/ Recycled**	(Cost) of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (eg. PCB & other)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash
** Do not use percentages

VEHICLE MAINTENANCE FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
NOVEMBER

Facility Name and Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

VMF Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: How many vehicle services (total) did you perform this month? _____
(Vehicle services include scheduled and unscheduled maintenance, accident, and vandalism repair).

#2: If your facility purchases retreaded tires,
how many were purchased this month? _____

#3: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?
Yes _____ No _____

If yes, please describe.

#	Policy or Process Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#4: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream That Was Hazardous**	Amount of Waste Stream Reused/ Recycled**	(Cost) of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (eg. PCB & other)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash
** Do not use percentages

VEHICLE MAINTENANCE FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
DECEMBER

Facility Name and Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

VMF Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: How many vehicle services (total) did you perform this month? _____
(Vehicle services include scheduled and unscheduled maintenance, accident, and vandalism repair).

#2: If your facility purchases retreaded tires,
how many were purchased this month? _____

#3: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?
Yes _____ No _____

If yes, please describe.

#	Policy or Process Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#4: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream That Was Hazardous**	Amount of Waste Stream Reused/ Recycled**	(Cost) of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (eg. PCB & other)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash
** Do not use percentages

Mail Processing and Distribution Facility

Waste Management Tracking Report Forms

MAIL PROCESSING AND DISTRIBUTION FACILITY
WASTE MANAGEMENT TRACKING REPORT FORMS
NOTES AND INSTRUCTIONS

The following Waste Management Tracking Report Forms (formerly called the Annual Waste Disposal Survey) have been provided in both hard copy and electronic format (Excel). If you have not received the electronic version, please contact your district environmental coordinator to obtain a diskette. This electronic version is provided to assist you with compiling the data for annual submittal. The monthly tracking forms are designed to automatically transfer information to and from the annual form. Monthly forms should be filled out at the end of each month. In order to efficiently utilize these forms the following steps should initially be taken:

1) Create an electronic "Master Copy" of this file as a backup and also for future years' submittals.
2) Complete **all** facility information (before question #1) on the "Annual(A)" form. Be sure to type the information in the first cell of the line provided, this will allow the information to be automatically transferred to all monthly forms.

[Note that policy or process changes noted on the monthly forms are not automatically transferred into the annual form.]

*If possible, submit the annual form to your area environmental compliance coordinator in electronic format.

Facility Name and Address:

For collocated facilities and auxiliary garages, each individual facility needs to prepare a separate tracking report. Do not double count waste streams.

Question #4 (Annual Form):

The 17 targeted chemicals are:

Benzene (in gasoline)
Cadmium and Cadmium Compounds (paints, metal grinding)
Carbon Tetrachloride (laboratory chemical, rubber manufacturing)
Chloroform (cleaner)
Chromium and Chromium Compounds
Cyanide and Cyanide Compounds (metal plating)
Lead and Lead Compounds (lead seals, solders, paints)
Mercury and Mercury Compounds (thermometers, light ballasts)
Methylene Chloride (paint stripper)
Methyl Ethyl Ketone (paints and strippers)
Methyl Isobutyl Ketone (paints and solvents)
Nickel and Nickel Compounds (metal plating)
Tetrachloroethylene (equipment cleaner, degreaser)
Toluene (equipment cleaner, degreaser)
1,1,1-Trichloroethylene (TCA) (equipment cleaner)
Trichloroethylene (TCE) (equipment cleaner)
Xylenes (paints)

Note: Appendix F of the *Pollution Prevention Handbook*, AS-552 provides a more detailed list of compouns associated with the 17 targeted chemicals.

Question #5 (Annual Form):

Nonhazardous cleaners, typically referred to as aqueous-based cleaners, are cleaners that do not contain one or more of the 17 targeted chemicals.

Low VOC paints are typically those paints with a VOC content of less than 50 percent VOC or contain less than 3.5 pounds per gallon of coating minus water. There are various state-specific VOC-RACT (Reasonably Available Control Technology) requirements for coatings. Refer to your district environmental compliance coordinator for state-specific requirements.

Question #6 (Annual Form):

Environmentally preferable products or services are defined as products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. Examples include:

- Products that do not contain any of the 17 targeted chemicals;
- Products with no ozone-depleting substances (ODS);
- Products that contain increased percentage of recycled content (minimum 50 percent recovered materials and 20 percent post consumer materials to increase to 30 percent post consumer material by 1988) and that are readily recyclable.

Question #8 (Annual Form) (#2 on Monthly Form):

Waste Category - These categories describe the typical waste streams generated at the postal facilities. If a waste stream is not generated at your facility, mark the total amount generated column with "NA" for not applicable. Where certain waste streams are a mixture of more than one material, please add to the waste category those other materials present. For example, at some P&DCs oil, ink, and alcohol are combined. Select the material that represents the majority of the mixture (e.g., oil) and add to the used oil waste category line "used oil/ink/alcohol". If actual numbers are not available for a given waste stream, use a best estimate based on purchase records and remaining stock.

Parts solvent is VOC-containing solvent and includes all part, brake, and carburetor solvents. This solvent is different from the parts wash water which is aqueous-based, low VOC, or non-VOC cleaners, and not typically considered hazardous waste.

Paint solvent is solvent such as thinner used for cleaning the paint spray guns and thinning the paint. This material may be mixed with waste paint. Solvent or oil-based paint is the actual paint that is no longer usable and is being discarded. This paint is considered VOC-based or oil-based and is not water-based.

Batteries refers to how many vehicle or machine batteries exchanged during the fiscal year.

Tires includes the total number of tires that were either retreaded or otherwise recycled.

PCB ballasts are those ballasts from lighting fixtures that do not have a label stating that they are "PCB-free".

Mercury-containing lamps includes the light bulbs or tubes from fluorescent lamps.

Cardboard, white paper, mixed paper, wood, plastic, scrap ferrous, and aluminum refers to those materials not placed in the trash. Mixed trash is the materials placed in the dumpster and hauled off-site to a solid waste/municipal landfill.

Waste pesticides are pesticides that are no longer being used or have expired shelf lives and are being disposed of.

Other category is for any other waste streams that are not specifically mentioned in the categories above. Examples include switches.

Total Amount Generated - This is the total amount of the given waste category that has been tracked. Total amounts generated for the waste categories cardboard, white paper, mixed paper, wood, plastic and aluminum does not include wastes placed in the trash. Waste placed in the solid waste dumpster is considered separately. In addition, aluminum waste does not include metal cans (e.g., soda and juice cans) being recycled.

Amount of the Waste Stream That Was Hazardous - Records should be maintained throughout the year on the amount of state and federal hazardous waste generated and removed by a hazardous waste contractor or taken to a hazardous waste disposal site. Manifest records kept on file are a source for this information. Note that waste streams including oil and antifreeze, not typically considered a hazardous waste, may exhibit a characteristic of hazardous waste when not properly managed. Therefore, during the course of the year, a facility may have a portion of its waste oil transported off-site as hazardous and the remaining portion managed as nonhazardous waste.

Amount of Waste Stream Reused/Recycled - This is the amount of the hazardous or nonhazardous waste stream generated that was recycled or reused and not disposed of. Records should be maintained throughout the year on the amount of waste that was sent out to be recycled or recycled on-site. *Use actual amounts for this column, do not give percentages.*

Cost of Hazardous Waste Disposal - This is the cost of off-site transportation, treatment, and disposal of hazardous waste. This information should be in the facility's financial records and is typically shown as a vendor service. In addition, refer to appropriate manifests if information is not readily available.

Revenue or Cost(-) of Recycling - This information should be available in the financial records. This is the amount paid out to contractors (a cost) and the amount of money received from contractors (revenue) for recycling. Examples of recycling costs include amount paid to a vendor to recycle batteries or retread tires. Examples of recycling revenues include amount received from a vendor or recycler for scrap metal or cardboard. *If a cost is associated with this item, indicate by enclos enclosing the amount in parenthesis.*

Total Revenue or Cost (Disposal + Recycling) - Add together the Cost of Hazardous Waste Disposal and t the Revenue or Cost(-) of Recycling columns to get this item. *If a cost is associated with this column, indicate this by enclosing the amount in parenthesis.*

MAIL PROCESSING AND DISTRIBUTION FACILITY
ANNUAL WASTE MANAGEMENT TRACKING REPORT
UNITED STATES POSTAL SERVICE

Fiscal Year _____

Facility Name and Address:

Facility Name: _____
Street Address: _____
City: _____
State: _____
Zip Code: _____ - _____
Plant Manager: _____
Telephone: _____
Fax: _____

Person Completing Form:

Name: _____ *Finance No:* _____
Title: _____ *(Facility Specific)*
Phone #: _____ *Sublocation No:* _____
Fax #: _____ *(Building Specific)*
District Name: _____

#1: How many people were employed at this facility during the fiscal year? _____

#2: What is the square footage of the facility (interior)? _____

#3: How many total pieces of mail did the facility process during the fiscal year? _____

#4: Since 1992, what is the range your facility has reduced the use of the 17 targeted hazardous chemicals? (See Notes).

(Mark an "X" next to the answer that best represents your facility)

a. None or a small amount _____
b. 25% or more _____
c. 50% or more _____
d. 75% or more _____

#5: Does your facility use any of the following pollution prevention products or strategies? Mark appropriate column with an "X". (If the item is not relevant to your facility operations, put an "X" under Not Applicable)

	Yes	No	Not Applicable
a. Nonhazardous parts washing cleaners or systems?			
b. Nonhazardous brake washing cleaners or systems?			
c. If you have an active spray paint operation, do you use a:			
High Volume-Low Pressure (HVLP) spray paint gun?			
Low-volatile organic compound (VOC) paints?			
d. Cardboard recycling?			
e. Contract for office paper recycling?			
f. Aluminum beverage can recycling?			
g. Recycled paper with a minimum content of 20% post consumer waste?			
h. Other? Specify _____			
i. Other? Specify _____			
j. Other? Specify _____			

#6: Does your facility follow a standard operating procedure for the purchase of environmentally-preferable products (part of a facility pollution prevention plan)?

Yes _____ No _____ If yes, please attach a written copy.

#7: Has your facility made any policy and/or process changes in the last year that have promoted pollution prevention?

Yes _____ No _____

If yes, please describe.

#	Policy or Progress Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#7: Please indicate the amount of waste generated and what portion was disposed of or recycled in the fiscal year for each waste stream. Use the same units of measure across a row. Please use a volume to weight conversion table if actual weights are not available.

Waste Category	Unit of Measure	Total Amount Generated (FY)	Amount of Waste Stream that was Hazardous	Amount of Waste Stream Reused/ Recycled	(Cost) of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal & Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (Thinner)	Gallons						
Solvent or oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (eg. PCB & other)	Units						
Mercury-containing lamps	Units						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash

#9: Remarks

MAIL PROCESSING AND DISTRIBUTION FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
JANUARY

Facility Name & Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

Plant Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?

Yes _____ No _____

If yes, please describe.

#	Policy or Progress Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#2: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row. Please use a volume to weight conversion table if actual weights are not available.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream that was Hazardous**	Amount of Waste Stream Reused/ Recycled**	Cost of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (PCB & others)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash

** Do not use percentages

MAIL PROCESSING AND DISTRIBUTION FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
FEBRUARY

Facility Name & Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

Plant Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?

Yes _____ No _____

If yes, please describe.

#	Policy or Progress Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#2: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row. Please use a volume to weight conversion table if actual weights are not available.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream that was Hazardous**	Amount of Waste Stream Reused/ Recycled**	Cost of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (PCB & others)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash
** Do not use percentages

MAIL PROCESSING AND DISTRIBUTION FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
MARCH

Facility Name & Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

Plant Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?

Yes _____ No _____

If yes, please describe.

#	Policy or Progress Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#2: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row. Please use a volume to weight conversion table if actual weights are not available.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream that was Hazardous**	Amount of Waste Stream Reused/ Recycled**	Cost of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (PCB & others)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash
** Do not use percentages

MAIL PROCESSING AND DISTRIBUTION FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
APRIL

Facility Name & Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

Plant Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?

Yes _____ No _____

If yes, please describe.

#	Policy or Progress Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#2: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row. Please use a volume to weight conversion table if actual weights are not available.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream that was Hazardous**	Amount of Waste Stream Reused/ Recycled**	Cost of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (PCB & others)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash
** Do not use percentages

MAIL PROCESSING AND DISTRIBUTION FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
MAY

Facility Name & Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

Plant Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?

Yes _____ No _____

If yes, please describe.

#	Policy or Progress Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#2: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row. Please use a volume to weight conversion table if actual weights are not available.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream that was Hazardous**	Amount of Waste Stream Reused/ Recycled**	Cost of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
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Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (PCB & others)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash
** Do not use percentages

MAIL PROCESSING AND DISTRIBUTION FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
JUNE

Facility Name & Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

Plant Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?

Yes _____ No _____

If yes, please describe.

#	Policy or Progress Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#2: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row. Please use a volume to weight conversion table if actual weights are not available.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream that was Hazardous**	Amount of Waste Stream Reused/ Recycled**	Cost of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (PCB & others)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash
** Do not use percentages

MAIL PROCESSING AND DISTRIBUTION FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
JULY

Facility Name & Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

Plant Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?

Yes _____ No _____

If yes, please describe.

#	Policy or Progress Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#2: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row. Please use a volume to weight conversion table if actual weights are not available.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream that was Hazardous**	Amount of Waste Stream Reused/ Recycled**	Cost of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (PCB & others)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash

** Do not use percentages

MAIL PROCESSING AND DISTRIBUTION FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
AUGUST

Facility Name & Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

Plant Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?

Yes _____ No _____

If yes, please describe.

#	Policy or Progress Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#2: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row. Please use a volume to weight conversion table if actual weights are not available.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream that was Hazardous**	Amount of Waste Stream Reused/ Recycled**	Cost of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
Used Oil	Gallons						
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (PCB & others)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash
** Do not use percentages

MAIL PROCESSING AND DISTRIBUTION FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
SEPTEMBER

Facility Name & Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

Plant Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?

Yes _____ No _____

If yes, please describe.

#	Policy or Progress Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#2: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row. Please use a volume to weight conversion table if actual weights are not available.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream that was Hazardous**	Amount of Waste Stream Reused/ Recycled**	Cost of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
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Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (PCB & others)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash

** Do not use percentages

MAIL PROCESSING AND DISTRIBUTION FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
OCTOBER

Facility Name & Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

Plant Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?

Yes _____ No _____

If yes, please describe.

#	Policy or Progress Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#2: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row. Please use a volume to weight conversion table if actual weights are not available.

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Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (PCB & others)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash

** Do not use percentages

MAIL PROCESSING AND DISTRIBUTION FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
NOVBEMBER

Facility Name & Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

Plant Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?

Yes _____ No _____

If yes, please describe.

#	Policy or Progress Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#2: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row. Please use a volume to weight conversion table if actual weights are not available.

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Oil Filters	Number						
Batteries	Number						
Ballasts (PCB & others)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash

** Do not use percentages

MAIL PROCESSING AND DISTRIBUTION FACILITY
MONTHLY WASTE MANAGEMENT TRACKING REPORT
DECEMBER

Facility Name & Address:

Facility Name: _____

Street Address: _____

City: _____ *State:* _____

Zip Code: _____ - _____

Plant Manager: _____

Telephone: _____

Fax: _____

Person Completing Form:

Name: _____

Title: _____

#1: Has your facility made any policy and/or process changes this month that have promoted pollution prevention?

Yes _____ No _____

If yes, please describe.

#	Policy or Progress Change	Date Implemented	Comments
1			
2			
3			
4			
5			

#2: Please indicate the amount of waste generated and what portion was disposed of or recycled this month for each waste stream. Use the same units of measure across a row. Please use a volume to weight conversion table if actual weights are not available.

Waste Category	Unit of Measure	Total Amount Generated	Amount of Waste Stream that was Hazardous**	Amount of Waste Stream Reused/ Recycled**	Cost of Hazardous Waste Disposal	Revenue or (Cost) of Recycling	Total Revenue or (Cost) [Disposal + Recycling]
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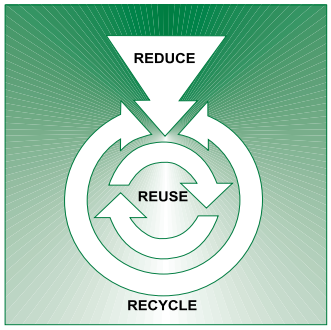
Waste Ink	Gallons						
Antifreeze	Gallons						
Parts Cleaner/Solvent	Gallons						
Paint Solvent (thinner)	Gallons						
Solvent or Oil-based Paint	Gallons						
Oil Filters	Number						
Batteries	Number						
Ballasts (PCB & others)	Number						
Mercury-containing lamps	Number						
Tires (including retread)	Number						
Cardboard*	Tons						
White Paper*	Tons						
Mixed Paper (incl. UBBM)*	Tons						
Wood*	Tons						
Plastic*	Tons						
Scrap Ferrous Metals	Tons						
Aluminum (not including metal cans)*	Tons						
Mixed Trash (dumpster)	Tons						
Waste Pesticides (post shelf life)	Pounds						
Other (e.g., switches)	Units						
Totals							

* Not placed in trash
** Do not use percentages



Appendix G

Pollution Prevention Team Meeting Notes

_____

(Facility Name)

Pollution Prevention Team Meeting Notes

Date: _____ **Meeting Number:** _____

Attendance:

_____ _____

_____ _____

_____ _____

_____ _____

Topics Covered:

- _____

_____

- _____

_____

- _____

_____

- _____

_____

- _____

_____

- _____

_____

Action Items:

- _____ _____
  (Name)
- _____ _____
  (Name)
- _____ _____
  (Name)
- _____ _____
  (Name)
- _____ _____
  (Name)
- _____ _____
  (Name)