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POLLUTION PREVENTION OPPORTUNITY ASSESSMENT  
UNITED STATES POSTAL SERVICE  
POST OFFICES PITTSBURGH, PA AREA

by

Carole O. Bell and Henry Huppert  
Science Applications International Corporation  
Newport, RI 02840

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Project Officers

James S. Bridges  
and  
N. Theresa Hoagland  
Sustainable Technology Division  
National Risk Management Research Laboratory  
Cincinnati, OH 45268

This study was conducted in cooperation with the  
United States Postal Service

NATIONAL RISK MANAGEMENT RESEARCH LABORATORY  
OFFICE OF RESEARCH AND DEVELOPMENT  
U.S. ENVIRONMENTAL PROTECTION AGENCY  
CINCINNATI, OHIO 45268

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## FOREWORD

The U.S. Environmental Protection Agency is charged by Congress with protecting the Nation's land, air, and water resources. Under a mandate of national environmental laws, the Agency strives to formulate and implement actions leading to a compatible balance between human activities and the ability of natural systems to support and nurture life. To meet this mandate, EPA's research program is providing data and technical support for solving environmental problems today and building a science knowledge base necessary to manage our ecological resources wisely, understand how pollutants affect our health, and prevent or reduce environmental risks in the future.

The National Risk Management Research Laboratory is the Agency's center for investigation of technological and management approaches for reducing risks from threats to human health and the environment. The focus of the Laboratory's research program is on methods for the prevention and control of pollution to air, land, water, and subsurface resources; protection of water quality in public water systems; remediation of contaminated sites and ground water; and prevention and control of indoor air pollution. The goal of this research effort is to catalyze development and implementation of innovative, cost-effective environmental technologies; develop scientific and engineering information needed by EPA to support regulatory and policy decisions; and provide technical support and information transfer to ensure effective implementation of environmental regulations and strategies.

This publication has been produced as part of the Laboratory's strategic long-term research plan. It is published and made available by EPA's Office of Research and Development to assist the user community and to link researchers with their clients.

E. Timothy Oppelt, Director  
National Risk Management Research Laboratory

## CONTACT

James Bridges and N. Theresa Hoagland are the EPA contacts for this report. They are presently with the newly organized National Risk Management Research Laboratory's Sustainable Technology Division in Cincinnati, OH (formerly the Risk Reduction Engineering Laboratory). The National Risk Management Research Laboratory is headquartered in Cincinnati, OH, and is now responsible for research conducted by the Sustainable Technology Division in Cincinnati.

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## ABSTRACT

The United States Postal Service (USPS) in cooperation with EPA's National Risk Management Research Laboratory (NRMRL) is engaged in an effort to integrate waste prevention and recycling activities into the waste management programs at Postal facilities. This report describes the findings of the Pollution Prevention Opportunity Assessment of the United States Postal Service Post Offices in Bridgeville, Hickory, Houston, McDonald, Morgan and Washington, PA. These assessments were conducted during the week of June 12, 1995.

The report describes the mission of each of the functional areas of the Post Offices including operations performed, processes and materials employed and the wastes and emissions generated. The report makes pollution prevention recommendations in the following areas: the procurement of office supplies, maintenance supplies, and hazardous materials; management of hazardous materials; purchase of chemicals on USEPA's 33/50 list; improvement of source separation and recycling of paper and paper products, metals and plastics; management of unwanted equipment; and other recommendations that can lead to the elimination, reduction or improved management of the facility's solid and hazardous waste streams.

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## SECTION 1.0

### INTRODUCTION

The United States Environmental Protection Agency (EPA) is actively supporting the development of pollution prevention program plans for Federal facilities. Since 1988, the EPA has managed a technical support effort known as the Waste Reduction Evaluations at Federal Sites (WREAFS) Program. WREAFS was established to provide pollution prevention solutions to environmental issues through research, development and demonstration of pollution prevention techniques and technologies, and transferring lessons learned within the Federal community and related private sector support industries. WREAFS has conducted more than 37 separate RD&D efforts under funding from both EPA and nine other Federal departments and agencies via interagency agreements.

The United States Postal Service (USPS) in cooperation with EPA's National Risk Management Research Laboratory (NRMRL) is engaged in an effort to integrate pollution prevention and recycling activities into the waste management programs at postal facilities. The purpose of this project is to perform pollution prevention opportunity assessments (PPOAs) at Postal Service facilities, representing a cross-section of the USPS inventory, to identify the pollution prevention opportunities for these facilities, recommend implementation strategies, and develop facility guidance that can be incorporated into a revision of the USPS Waste Reduction Guide.

This report describes the findings of the PPOA conducted for six United States Postal Service Post Offices (POs) located in Bridgeville, Hickory, Houston, McDonald, Morgan and Washington, PA. The site assessments were conducted during the week of June 12, 1995.

The Assessment Team performed a multi-media assessment. Issues of concern included: hazardous material acquisition, use and storage; hazardous waste storage and disposal; and procurement and solid waste management, including recycling. The report begins with a brief description of each facility. This is followed by descriptions of specific operations and the wastes and emissions generated. The report makes recommendations that may lead to the elimination, reduction, or improved management of the facility's waste streams. Mention of trade names, commercial products, or vendors does not constitute endorsement or recommendation for use.

## **1.1 SITE DESCRIPTION**

The Assessment Team visited six USPS Post Offices located southwest of Pittsburgh, PA. The McDonald, Morgan and Bridgeville Post Offices are located in Allegheny County and the Hickory, Houston and Washington Post Offices are located in Washington County.

## **SECTION 2.0**

### **FACILITY DESCRIPTIONS**

This section briefly describes each facility, the operations performed, and the wastes and emissions generated by those operations. Exhibit 2.1 provides a summary of information on the six facilities.

#### **2.1 POST OFFICES**

##### **2.1.1 McDonald, PA**

The Post Office in McDonald, PA is a 5,331 sq. ft. USPS-owned facility staffed by 19 employees. The main floor of the building has a small customer service area, separate Postmaster's office, a mail sorting area, a supply storage area and a small loading dock. Two air conditioners are located on the main floor. The upper floor contains Postal Inspection Service areas and a break room. The basement contains four rooms. One room is used to store grounds maintenance equipment, including mowers, calcium chloride for snow/ice melting, snow tires for the vehicles, and small amounts of oil and gasoline. The main basement room contains the gas fired furnace and hot water heater, as well as several containers of cleaning products and other supplies. A third room is used as a forms storage area and the last room is used to store miscellaneous equipment and supplies. This room contains several cabinets with numerous containers of old paints containing xylene and toluene, cancellation inks, and other products.

Cleaning at the facility is performed by a contract cleaner three hours per day. The Postmaster purchases all supplies for cleaning. The heating and air conditioning units are serviced yearly by a local contractor. This office has seven vehicles and vehicle maintenance is performed by the Vehicle Maintenance Facility (VMF) in Washington, PA on a regular schedule. Minor repairs and maintenance are performed at a local service station. The vehicles are washed once per month by a local contractor. The vehicles are cleaned in the parking lot and the wash water drains to the local sewer system.

All wastes generated by this facility are placed in a six cubic-yard container. Although the container is scheduled to be emptied every other week, it often is emptied weekly. No recycling was occurring at the time of the assessment. Yard waste is deposited in the waste container.

EXHIBIT 2.1 SUMMARY OF FACILITIES ASSESSED

Facility	Hickory	Morgan	Houston	McDonald	Bridgeville	Washington
Size Sq. ft.	585	1,836	3,850	5,331	14,439	51,885
USPS Owned or Leased	Leased	Leased	Leased	Owned	Owned	Owned
Employees (Full-time, Part-time)	2FT, 2PT	1 FT, 1 PT	10 FT	18 FT, 1 PT	43 FT, 3 PT	135 FT
Deliveries	474	479	2,143	3,435	9,403	17,559
Mail Volume Lin. Ft. per Week/Number of Parcels per Week	112/320	40/40	300/300	600/400	1500/600	3200/500
Number of Vehicles	No USPS Vehicles	1 vehicle from Bridgeville Fleet	3 vehicles	7 vehicles	16 vehicles	37 vehicles
Avg Electric Cost per Month	\$42	\$100	\$100	\$85	\$678	\$2,548
Waste Disposal Cost per Mo.	\$11.67	\$25	\$15	\$32	\$205.47	\$319.30
Size of Container	7 bags	6 cu. yd.	3 55-gallon drums	6 cu. yd.	6 cu. yd.	8 cu.yd.
Number of Times Emptied per Week	1	1	1	1	2	3
Typical UBBM per Week Ln Ft.	3	3	10	18	75	84
Gas Cost per Month	Paid by Landlord	\$100 to \$200	\$55 to \$289	\$270 to \$510	\$500 to \$1430	\$180 to \$1078
Sewer Cost per Month	Paid by Landlord	\$10	Paid by Landlord	\$24	\$21	\$62
Water Cost per Month	\$14	\$10	Paid by Landlord	\$30	\$59	\$121.5

### **2.1.2 Bridgeville, PA**

The Post Office in Bridgeville, PA is a 14,439 sq. ft. USPS-owned facility staffed by 43 full-time and 3 part-time employees. The main floor of the building has a customer service area, Postmaster's office and administrative offices, a 5,000 sq. ft. mail sorting area, locker/break rooms, storage closets and a loading dock. Upper areas contain chillers and blowers for the building cooling and ventilation. The basement is divided into several rooms. One large room is full of excess or old equipment such as shelves and sorting racks. One small room in this area is locked and staff is unable to open it. Another room is used as a storage area for excess equipment such as computers. Staff indicated that area POs send equipment to Bridgeville for storage, since they have extra space. Other rooms contain old forms and supplies such as cancellation ink. Leaking containers were noted in several areas. Numerous containers of paints and thinners, several of which contained toluene and xylene, were found in the flammable materials cabinet in the basement. One auto battery was found in the basement. Commercial pesticides also were present in the facility, including ant and roach sprays, and wasp sprays.

Cleaning at the facility is performed by the maintenance staff. This office has 16 vehicles (3 jeeps and 13 trucks). Additions of oil, gas line antifreeze, antifreeze, and windshield wiper fluid are performed by maintenance staff once per week. Scheduled maintenance for the vehicles, as well as major overhauls, are performed by the Pittsburgh VMF. Minor maintenance is performed by a local service station. The vehicles are washed once per month by a local contractor. Vehicles are washed in the parking lot and the wash water drains to the local sewer system.

All wastes generated by this facility are placed in a six cubic-yard container which is emptied twice per week. No paper recycling was occurring at the time of the assessment; two aluminum can collection containers with built-in can crushers were located near the break rooms. Toilet tissue and paper towels contained recycled content, although the purchasing agreement does not specify it.

### **2.1.3 Morgan, PA**

The Post Office in Morgan, PA is a 1,836 sq. ft. USPS-leased office staffed by one full-time and one part-time employee. The one story building has a small customer service area, a combined office and mail sorting area, and a storage closet. All wastes generated by this facility are placed in a six cubic-yard container that is emptied every week. Rental of this container is shared with a landscape contractor, who shares the building. The Postmaster separates newsprint and undeliverable bulk business mail (UBBM) and recycles it at the municipal recycling center located in an adjacent parking lot. No other recycling was occurring at the time of the assessment. All cleaning products used in this facility are off-the-shelf items.

#### **2.1.4 Hickory, PA**

The Post Office in Hickory, PA is a 585 sq. ft. USPS-leased office staffed by two full-time and two part-time employees. The building is shared with other tenants and has a small customer service area, a mail processing area, and storage area. All wastes generated by this facility are placed in plastic bags and collected weekly by a local waste hauler. The USPS pays for electricity, water, and waste collection and the landlord is responsible for heat and building maintenance. This office generates approximately three linear feet of UBBM each week. The UBBM is discarded with the other waste. At the time of the assessment, no recycling was occurring. All cleaning products used in this facility are off-the-shelf items.

#### **2.1.5 Houston, PA**

The Post Office in Houston, PA is a 3,850 sq. ft. USPS-leased office that is staffed by 10 full-time employees. The one floor office has a small customer service area, Postmaster's office, a mail sorting area, storage closet and a small back room that is used as a shipping and receiving area. This office has three long life vehicles (LLV). The office generates approximately three 55-gallon drums of waste per week. The office is cleaned four times per week by a contract cleaner. The storage room contained forms, paints and paint thinner, as well as cancellation inks, motor oil for the LLVs and other supplies. An adjacent non-USPS machine shop causes a fairly strong solvent smell in the post office. Staff stated that they generate approximately 10 linear feet of UBBM per week. UBBM is discarded with the solid waste. No recycling programs were in place at the time of the assessment.

#### **2.1.6 Washington, PA**

The Post Office in Washington, PA is a 51,885 square foot USPS-owned facility that operates three shifts or tours and is staffed by 143 full-time employees. The upper floor of the building has a customer service area, administrative offices, and training facilities. The lower floor has a mail sorting area, several storage closets for supplies and excess equipment, maintenance shop with a flammable materials cabinet, offices, a public bulk mail acceptance area and a loading dock.

All wastes generated by this facility, with the exception of cardboard, UBBM, and some aluminum cans, are placed in an eight cubic-yard container scheduled to be emptied three times per week. Some cardboard is collected in metal mail transport equipment called OTRs for donation to a local mission. Reusable sorting trays are broken down and staged for reuse. One wire cage of UBBM is collected daily and shipped to the Pittsburgh General Mail Facility (GMF) for recycling. Some aluminum cans are collected for recycling by individual employees. Pallets are discarded into the waste container. Rags, purchased by the bale, are discarded after use.

One storage room contained a large quantity of excess equipment and shelving, as well as several fire extinguishers. A review of the chemicals and cleaning products used revealed that

most products used did not contain EPA 33/50 chemicals targeted for reduction. See the appendices for further discussion of EPA 33/50 chemicals and ozone depleting substances. Numerous paints and stains were found that contained xylene, toluene and methylene chloride. One stainless steel cleaner had an unidentified chlorinated solvent. The maintenance staff had a book of material safety data sheets (MSDS), however, this collection was clearly incomplete and outdated. Several of the product MSDS indicated the presence of ozone depleting substances (ODS) and EPA 33/50 chemicals.

This office has 36 mail delivery vehicles and one administrative vehicle. Maintenance for the vehicles is performed by the VMF in Washington, PA on a regular schedule. The vehicles are washed weekly and wastewater is directed to the sanitary sewer.

## **2.2 POST OFFICE WASTE GENERATING OPERATIONS**

The wastes generated by Post Offices are all very similar; the quantity varies according to the size of the facility. POs vary in size and number of urban and rural delivery routes, but they incorporate the same routine operations. The materials purchased and wastes generated by these operations are consistent. The wastes generated by the POs include obsolete equipment and supplies; corrugated cardboard; computer paper; white paper; mixed office paper, including forms and envelopes; magazines; undeliverable bulk business mail; newsprint; employee wastes including cans, bottles, wrappers, and food; fluorescent tubes; shrink/stretch wrap, plastic strapping, and plastic, pressboard, and wood pallets. The basic PO functions are described below.

### **2.2.1 Administration**

Administrative activities are located in an office where staff maintain mail processing and delivery records; purchase, receive and track supplies; and oversee leases and contracts for utilities and cleaning, grounds maintenance, recycling and disposal services. Wastes generated and/or managed by administration may include: pallets, shrink wrap, strapping, corrugated cardboard, office and computer paper, toner cartridges, and fluorescent tubes and ballasts.

### **2.2.2 Facility and Equipment Maintenance**

Facility maintenance includes all cleaning, maintenance and repair activities such as changing air filters and grounds maintenance. Vehicle maintenance is performed off-site, but routine fluid replacement and vehicle washing may be performed at an PO. Larger facilities may use automated mail processing equipment that requires regular cleaning and maintenance. Wastes may include: cleaning chemicals and containers, rags, solvents, paint, filters, wash water, leaves and grass, and employee wastes such as food and beverage containers.

### **2.2.3 Customer Service**

Customer service may include sales of stamps, envelopes, boxes, and postal money orders as well as receiving and distribution of letters, flats, and packages. Wastes generated in customer service activities may include small quantities of corrugated cardboard, paper, plastic film, and containers from cancellation inks. Renters of postal boxes and other customers may utilize waste containers located in the lobby to discard unwanted mail, including paper, newsprint and magazines, as well as food and beverage containers and other wastes.

### **2.2.4 Mail Sorting**

Carriers receive mail in trays and sort it by zip code and route prior to delivery. This sorting activity generates shrink wrap, plastic strapping, labels, office paper and computer printouts. Carriers also may discard food and beverage containers at the sorting station.

### **2.2.5 Mail Delivery**

After completing the delivery route, carriers return undeliverable bulk business mail, magazines and newsprint to the Post Office for appropriate management.



## SECTION 3.0

### POST OFFICE POLLUTION PREVENTION OPPORTUNITIES

This section describes pollution prevention opportunities specific to the operations of Post Offices. Exhibit 3.1 provides an overview of significant Post Office waste streams, and appropriate pollution prevention opportunities. The appendices provide additional sources of pollution prevention information.

#### EXHIBIT 3.1 POLLUTION PREVENTION OPPORTUNITIES IN POST OFFICES

Waste	Current Practices	Pollution Prevention Opportunities
Paper: computer print-out, white/mixed office	Discarded as waste	Affirmative procurement, Reduce paper use, Reuse, Recycle
Paper: UBBM, magazines and newsprint	Typically discarded, hauled for recycling by larger offices	Reduce incoming quantity Reuse Recycle
Corrugated cardboard	Typically discarded, larger facilities recycle	Reduce incoming corrugated Recover and recycle
Plastic film	Discarded as waste	Reduce incoming material Seek recycling option
Plastic strapping	Discarded as waste	Seek recycling option
Pallets	Discarded as waste	Reuse Recycle
Products containing 33/50 chemicals	Discarded as waste	Alternative products Product exchange
Cleaning supplies	Discarded as waste	Non- or less- toxic substitutes
Leaves, grass and yard trimmings	Discarded as waste	Leave grass cuttings on lawn Compost
Toner cartridges	Discarded as waste	Remanufacture and reuse
Fluorescent tubes and ballasts	Discarded as waste	Recycle
Food and beverage containers	Discarded as waste	Recycle
Obsolete, damaged or defective equipment	Discarded or sold as scrap	Repair and reuse

### **3.1 CARDBOARD**

#### **Current Conditions**

One of the largest waste streams generated at the Post Offices is corrugated cardboard. Cardboard is generated from deliveries of supplies as well as movement of mail and discarded letter trays. Five of the six Post Offices visited discard corrugated cardboard in their waste container. The sixth facility donates cardboard to a local mission. The USPS environmental coordinator for the Pittsburgh district stated that they are in the process of developing a system to ship old corrugated cardboard (OCC) to a central location for recycling. At the time of the assessment, however, this practice was established in approximately 25 larger offices and it had not been expanded to include the smaller offices.

#### **Pollution Prevention Opportunities**

1. Reduce quantity of corrugated cardboard

Encourage suppliers to deliver products in reusable containers and identify opportunities to reuse cardboard. Make cardboard boxes available to customers for reuse.

2. Establish Corrugated Cardboard Recycling Programs

Each PO should establish a corrugated cardboard source separation policy, designate containers for cardboard only and train all employees to maintain separation of OCC for recycling. Since the quantity of cardboard at individual POs is small, local haulers or recyclers may ask the USPS to designate a central cardboard accumulation point to coordinate OCC recycling. OCC from smaller offices may be brought to the accumulation point for collection by a local recycler or hauled to the Pittsburgh GMF for recycling.

### **3.2 PAPER**

#### **Current Conditions**

Paper at POs is typically discarded as waste. Two of the six POs visited are collecting UBBM for recycling. Washington separated UBBM and hauled it to the Pittsburgh GMF for recycling. In Morgan, the Postmaster was recycling the UBBM through a municipal paper recycling program.

## Pollution Prevention Opportunities

### 1. Adopt Paper Waste Reduction Techniques

Before initiating an enhanced recycling program, facility managers and staff should adopt and promote a variety of techniques to prevent or reduce the quantity of paper generated for disposal.

- Establish a duplex copying policy for all multi-page documents and provide staff 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, jiffy bags, 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.
- Encourage staff to proofread on screen and save information on disks rather than as paper file copies.

### 2. Promote Reuse and Recycling of Paper and Paper Products

Take advantage of opportunities to recycle. Identify and participate in community recycling programs. Bring recyclable paper and paper products to a local paper recycler or a community drop-off location. If curbside collection of recyclable paper is offered, determine whether an PO can participate. Perhaps another commercial entity would be willing to add the PO's paper to their recycling effort. Provide a separate container for recyclable paper in the lobby and encourage customer participation.

### 3. Establish waste hauling contracts that include recycling services

When establishing new waste hauling contracts, POs should require separate collection of recyclable paper and obtain certification of recycling.

### **3.3 UBBM**

#### **Current Conditions**

USPS bulk mail policies and support services to bulk mailers contribute to the quantity of undeliverable bulk business mail (UBBM), including magazines and newsprint, in the USPS waste stream. Current USPS policy promotes recycling of UBBM; a policy promoting UBBM reduction is not under consideration. UBBM constitutes a substantial input into the PO wastestream and the USPS incurs significant costs to process, transport, deliver and dispose of UBBM.

#### **Pollution Prevention Opportunities**

1. To determine whether reduction or recycling is the most cost effective management practice for UBBM, the USPS should perform a cost analysis to compare the combined revenues from bulk mailing and recycling of UBBM to the costs associated with sorting, handling, transporting and processing undeliverable mail and associated packaging.
2. To reduce the quantity of UBBM managed by postal facilities, the USPS could expand its mailing list maintenance service. Annual mailing list updates, particularly for third and fourth class mail, could be integrated into the bulk mail permitting process.
3. At a minimum, the Pittsburgh district should begin to recycle UBBM to avoid the disposal costs and potentially earn revenue. Many areas have initiated programs to collect UBBM, magazines and newsprint at a central location by integrating hauling of UBBM into the existing mail transportation system. A separate transportation system to move UBBM from POs to an accumulation point will increase costs and environmental impacts.

### **3.4 RECYCLING OF OTHER MATERIALS**

#### **Current Conditions**

Metals, wood pallets and other recyclable materials are typically deposited in the waste container.

#### **Pollution Prevention Opportunities**

1. Consolidate metals and excess equipment. Evaluate potential for repair and reuse. Consult with the area environmental coordinator to determine whether the metals must be sold at auction or can be offered to a local metals dealer for recycling. There are a number of repair, reuse or recycling options for computer equipment.

2. Set up recycling bins for other recyclable materials  
  
Separate metal food and beverage containers and establish a recycling option for these materials.
3. Identify local pallet refurbishers. Collect pallets and consolidate at a single location for recycling.

### **3.5 VEHICLE MAINTENANCE**

#### Current Conditions

Vehicle maintenance generally is performed off-site by either USPS Vehicle Maintenance Facilities or local, private service stations.

#### Pollution Prevention Opportunities

1. POs should enter into written agreements with private service stations maintaining USPS vehicles. The agreement should specify compliance with USPS environmental standards including recovery and recycling of used oil, antifreeze, and oil filters and procurement of re-refined oils and retread tires.

### **3.6 VEHICLE WASHING**

#### Current Conditions

Local contractors or staff at POs wash USPS vehicles in the parking lot, with little or no attention to run-off of wash water and detergents.

#### Pollution Prevention Opportunities

1. Consider washing vehicles at an off-site installation that recovers and reuses wash water.
2. Read the labels on vehicle washing detergent products. Evaluate the toxicity and pH of the product and the impacts of wastewater discharge to the sanitary sewer.

### **3.7 GROUNDS MAINTENANCE**

#### Current Conditions

Each PO generates small quantities of leaves, grass and yard trimmings. Many dispose of these wastes with the trash. Some POs use mulching mowers and leave grass clippings to decompose in place.

## Pollution Prevention Opportunities

1. Small quantities of leaves and yard trimmings can be composted on-site in a simple container. Minimal management includes turning the material occasionally to reduce the temperature and increase oxygenation. The finished compost can be applied to lawns and shrubs as a soil amendment. Local farms or community compost operations may provide alternative composting sites.
2. Grass clippings may be left on the lawn.

## **3.8 LIGHTING AND ENERGY**

### Current Conditions

The Federal government is a major consumer of energy, using more than two percent of all energy consumed in the United States. The Energy Policy Act of 1992 and Executive Order 12902 require Federal agencies to reduce energy consumption per gross square foot 20 percent by the year 2000 and 30 percent by the year 2005. While the USPS is not an Executive Agency, policy requires compliance with Executive Orders to the maximum extent feasible. Both reductions are from a 1985 baseline. In addition, Federal agencies must conduct comprehensive energy audits and install cost-effective energy conservation measures; agencies are encouraged to audit 10 percent of their facilities each year, using "no-cost" audits where practicable. These requirements are summarized in Exhibit 3.2.

**EXHIBIT 3.2 FEDERAL ENERGY POLICIES**

<b>Energy Policy Act Of 1992</b>	<b>Executive Order 12902</b>
Reduce energy consumption per gross square foot 10 percent by 1995 (1985 baseline)	Reduce energy consumption per gross square foot 30 percent by 2005 (1985 baseline)
Reduce energy consumption per gross square foot 20 percent by 2000 (1985 baseline)	Reduce energy consumption per gross square foot 20 percent in industrial facilities by 2005 (1990 baseline)
Conduct comprehensive facility audits and install cost-effective energy conservation measures	Conduct surveys and comprehensive audits
In Federally owned buildings, install all energy and water conservation measures that have payback periods of less than 10 years	Implement recommendations for energy efficiency, water conservation and renewable energy that have payback periods of less than 10 years

## Pollution Prevention Opportunities

### 1. Increase the Use of Motion Sensitive Lighting

Motion sensitive lighting was not used in any of the POs visited. The PO staff should review the lighting plans and install motion sensitive lighting in infrequently used areas.

### 2. Establish a "Lights Out" Policy

Turning off lights and equipment when not needed prolongs their useful life, thus reducing disposal. In addition, each kilowatt hour saved prevents the formation of air pollutants, including 0.68 kg of carbon dioxide, 5.8 g of sulfur dioxide and 2.5 g of nitrogen oxides. Establish a policy of turning off lights and equipment when leaving an area. Where machine design permits, turn photocopiers to low power when not in use.

### 3. Technical Assistance from Green Lights Program

USEPA operates Green Lights, a voluntary, non-regulatory program promoting pollution prevention through the installation of energy efficient lighting. Federal partners agree to upgrade lighting to maximize energy savings wherever it is profitable. The Green Lights program benefits participants by lowering electricity bills, improving lighting quality, and increasing worker productivity. Energy efficiency also reduces the quantity of pollutants released in the generation of electricity. For example, EPA estimates that if Green Lights were fully implemented, where profitable, in the United States, it would save over 65 million kilowatts of electricity annually, reducing the national electric bill by \$16 billion per year. The program would also result in reductions of carbon dioxide, sulfur dioxide, and nitrogen oxides equivalent to 12 percent of U.S. utility emissions, curbing acid rain and smog and helping to slow the greenhouse effect. See the appendices for additional information on the Green Lights program.

### 4. Procure computers that meet Energy Star requirements

Future computer equipment purchases should specify equipment that is energy efficient. Executive Order 12845 requires Federal agencies to purchase computer equipment that meets EPA Energy Star requirements for energy efficiency. The EPA Energy Star Program is a voluntary partnership with the computer industry to promote energy-efficient personal computers, monitors and printers. Participating companies have committed to develop computer equipment that powers down when not in use. The "sleep" feature cuts energy use by 50 to 75 percent. Energy Star also includes a category for controlling devices, external retrofit products that reduce the energy consumption of existing computer equipment by automatically turning them off when not in use. The Federal Supply Service offers a product called the Intelligent Energy Saver, a PC add-on device that controls electrical power to the PC and its peripherals. The complete PC

system can be powered on and off at user-defined dates and times. See the appendices for additional information on the Energy Star Program.

### **3.9 FLUORESCENT LIGHTING TUBES**

#### **Current Conditions**

The POs are typically lighted with fluorescent tubes. All of the facilities assessed discard fluorescent tubes into the solid waste container. None of the offices were using motion sensitive lights.

USPS Memorandum for Managers, Operations Support, dated December 16, 1994 states that "Under no circumstances should [fluorescent] lamps be mechanically crushed or ground into smaller pieces. This method of disposal increases the exposure of hazardous materials to both employees and the environment. Lamps should be boxed prior to disposal."

Fluorescent lights are one of the most energy efficient lighting sources available. However, fluorescent lighting tubes contain mercury, which is used as an element to conduct the flow of the electric current. Historically, fluorescent lighting tubes were discarded into landfills. When the tubes broke, mercury was released to the environment. This potential hazard caused many states to classify fluorescent lighting tubes as hazardous waste and require that they be managed in accordance with applicable hazardous waste laws and regulations.

Recycling spent fluorescent lighting tubes offers an environmentally sound alternative to expensive hazardous waste disposal. Additionally, recycling may relieve the generator of future liability concerns associated with tube disposal. Several companies provide recycling services for spent fluorescent lighting tubes and some of these companies also accept ballasts, a component of the light fixture. Ballasts manufactured prior to 1980 contain polychlorinated biphenyls (PCBs), which also present disposal problems. However, ballasts produced after 1980 do not contain PCBs. According to Ron Newman of A-TEC Recycling, the useful life of ballasts is approximately 15 years.

Some states allow ballasts that do not contain PCBs to be disposed of in sanitary landfills. However, according to Stephanie Small of DYNEX Environmental, Inc., non-PCB ballasts contain diethylhexylphthalate (DEHP). Evidence indicates that DEHP is a human carcinogen. Due to either the PCBs or DEHP content, Ms. Small recommends that customers manage all ballasts as hazardous.



## Pollution Prevention Opportunities

### 1. Establish Fluorescent Tube Recycling Program

Store expired bulbs in boxes in a safe area. USPS facilities should ship expired bulbs to an approved facility for recycling of glass, metals, and mercury. Since each PO generates a small quantity of fluorescent tubes, they should be collected at a central location for recycling.

Exhibit 3.3 provides information on the specific services offered by companies that provide fluorescent tube recycling services, the current cost of the services and the geographic area serviced by each company. For further information on fluorescent tubes and ballasts, see the appendices.

### EXHIBIT 3.3 FLUORESCENT LIGHTING TUBE RECYCLERS

Company/Address/Contact	Services Offered	Cost of Services (September, 1995)	Geographic Area Served
DYNEX Environmental, Inc. 4751 Mustang Circle St. Paul, MN 55112 (612) 784-4040	1. Lamp recycling: Customer to pack lamps in original box. 2. Provides reusable boxes to customer for rental. 3. Pick-up service. 4. PCB and non-PCB Ballast disposal (3 methods)	4-ft lamp (min. of 100) \$ .39 Over 4 ft (min. of 100) \$ .66 <u>Ballast Disposal</u> Method 1: Landfill \$1.19/lb at (1 drum minimum) \$ 795/drum Method 2: Decap \$1.49/lb at (1 drum minimum) \$ 1,100/drum Method 3: Incinerate \$2.59/lb at (1 drum minimum) \$ 2,000/drum	Nationwide
Lighting Resources, Inc. 386 South Gordon Street Pomona, CA 91766 (800) 572-9253	1. Lamp recycling: Customer to pack lamps and prepare bill of lading. 2. Pick-up service 3. Ballast recycling	Per lamp \$ .07 to .10 Per HID \$ .75 to \$2.75 <u>Ballasts</u> \$ .75/lb at \$ 700 to \$ 750/dr	Nationwide
Mercury Technologies International 1940 Westwood Blvd., No. 218 Los Angeles, CA 90025 (310) 475-4684	1. Lamp recycling 2. Pick-up service	Per linear ft/lamp \$ .07 to .10 Per HID \$3.00	Nationwide
Recyclights 2010 East Hennepin Avenue Minneapolis, MN 55413-2799 (800) 831-2852 or (612) 378-9568	1. Lamp recycling 2. Pick-up service	4-ft lamp \$ .40 to .60 over 4 ft/lamp \$ .60 to .83 Per HID \$2.50 to \$5.00	Nationwide
Mercury Refining Company 1218 Central Avenue Albany, NY 12205 (518) 459-0820	1. Lamp recycling 2. Pick-up service	Per linear ft/lamp \$ .08 Crushed lamps per 55 gallon drum \$ 650 HID/gal. with 1.5" diameter \$ 15 HID/gal. with less than 1.5" \$ 20	Nationwide

Company/Address/Contact	Services Offered	Cost of Services (September, 1995)	Geographic Area Served
DYNEX Environmental, Inc. 4751 Mustang Circle St. Paul, MN 55112 (612) 784-4040	1. Lamp recycling: Customer to pack lamps in original box. 2. Provides reusable boxes to customer for rental. 3. Pick-up service. 4. PCB and non-PCB Ballast disposal (3 methods)	4-ft lamp (min. of 100) \$ .39 Over 4 ft (min. of 100) \$ .66 <u>Ballast Disposal</u> Method 1: Landfill (1 drum minimum) \$ 1.19/lb at \$ 795/drum Method 2: Decap (1 drum minimum) \$ 1.49/lb at \$ 1,100/drum Method 3: Incinerate (1 drum minimum) \$ 2.59/lb at \$ 2,000/drum	Nationwide
Bethlehem Apparatus Company, Inc. 890 Front Street P.O. Box Y Hellertown, PA 18055 (610) 838-7034	1. Lamp recycling: customer to ship whole tubes in original box or crushed lamps in 55 gallon drums.	4-ft lamp whole (1-3000) \$3.00 (3000-6000) \$2.25 (over 6000) \$1.50 8-ft lamp whole (1-3000) \$4.50 (3000-6000) \$3.50 (over 6000) \$2.25 1 to 5 Drums \$1,235/each 6 to 10 Drums \$ 930/each over 10 Drums \$ 650/each	Nationwide
USA Lights Environmental Inc. 2007 Country Road C-2 Roseville, MN 55113 (612) 628-9370	1. Lamp recycling: Customer to pack lamps in original boxes, secure box with tape, and record number of lamps on the box. 2. Pick-up service. 3. Pollution Liability Insurance coverage	4-ft lamp \$ .44 8-ft lamp \$ .62 Per HID \$2.29	Nationwide

### 3.10 AFFIRMATIVE PROCUREMENT

#### Current Conditions

The POs do not make it a standard practice to purchase items, such as paper, with recycled content. Instead, most items purchased are made of virgin material. It appears that the purchasing officials at the POs are unaware of USPS policy and federal legislation requiring the purchase of materials with recovered content. The United States Postal Service Waste Reduction Guide (AS552, February, 1992) directs Requiring offices to "review purchase specifications to eliminate prohibitions or limitations on use of recovered materials" and to modify specifications to encourage use of recycled products. Current supplies of printing, duplicating and computer paper at the POs do not contain any recovered content.

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." In 1995, EPA published the Comprehensive Guideline for Procurement of Products Containing Recovered Materials (60 FR 21370, May 1, 1995) providing requirements for procurement of seven categories of products including paper and paper products, vehicular products, construction products, transportation products, park and recreation products, landscaping products and non-paper office products. Items of particular interest to the USPS include printing and writing papers, re-refined lubricating oil, engine coolant, trash bags, toner cartridges, binders and desktop accessories. These guidelines provide information about the recommended percentage of recovered material, product availability and performance, and specification language.

In Executive Order 12873, October 22, 1993, President Clinton directs agencies to develop and implement affirmative procurement programs for all EPA guideline items and ensure that these programs require that 100 percent of their purchases of products meet or exceed the EPA guideline standards. Although the Postal Service is not an Executive Agency, USPS Policy is to comply with Executive Orders whenever feasible.

#### Pollution Prevention Opportunities

##### 1. Purchase products with recycled content and train staff

The POs should establish preference programs and adopt specifications for the purchase of products made with the percentages of recovered materials specified in USEPA Guidelines. The United States General Services Administration (GSA) catalog has special sections for environmentally sound products, such as paper with recycled content. These items are highlighted in green throughout the catalog. The purchasing official should adopt as standard practice the purchase of items with the highest amount of recycled content. Changes in the procurement system will create staff training opportunities and staff will need training on Federal affirmative procurement

requirements. Exhibit 3.4 presents products for which EPA has established minimum recovered content levels.

EPA has developed availability lists providing reference to manufacturers and vendors of the items designated in the Comprehensive Procurement Guidelines. These lists will be updated periodically as new sources are identified and EPA becomes aware of changes in product content and availability. To assist procuring agencies, the lists are available at no charge by calling EPA's RCRA Hotline at (800) 424-9346

GSA publishes an Environmental Products Guide, which lists items available through its Federal Supply Service. This guide, formerly the Recycled Products Guide, has been prepared to assist Federal civilian and military agencies to identify environmentally oriented products and services available through the supply system of the General Services Administration's Federal Supply Service. The guide contains information about more than 2,900 such items from GSA's supply system. In the general category of recycled content paper products alone, there are more than 900 entries. Some of these items contain 100 percent post-consumer recovered materials and all meet or exceed guideline requirements established by the Environmental Protection Agency. This publication is available to Federal agencies at no cost from the GSA Centralized Mailing List Service in Fort Worth, Texas 76115, (817) 334-5215.

# EXHIBIT 3.4 EPA ESTABLISHED MINIMUM RECOVERED CONTENT LEVELS

Category/Product	Percent Recovered Content
<b>Paper</b>	
High grade bleached printing and writing paper	20%
Mimeo and duplicator paper	20%
Computer paper	20%
Envelopes	20%
<b>Tissue Products</b>	
Toilet tissue	20-100%
Paper towels	40-100%
Paper napkins	30-100%
Facial tissue	10-100%
<b>Unbleached packaging</b>	
Corrugated boxes	25-50%
<b>Vehicular Products</b>	
Lubricating Oil (re-refined oil)	25%
Tires	retread tires
<b>Construction Products</b>	
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 or rubber blends)	90-100%
Patio blocks (plastic or plastic blends)	90-100%
Floor tiles (rubber)	90-100%
Floor tiles (plastic)	90-100%
<b>Transportation products</b>	
Traffic cones (PVC, LDPE, Crumb Rubber)	50-100%
Traffic barricades (HDPE, LDPE, Pet Steel)	80-100%
Traffic barricades (Fiberglass)	100%
<b>Park and Recreation Products</b>	
Playground surfaces (rubber or plastic)	90-100%
Running tracks (rubber or plastic)	90-100%
<b>Landscaping Products</b>	
Paper-based hydraulic mulch (postconsumer recovered paper)	100%
Wood-based hydraulic mulch (recovered wood and/or paper)	100%
<b>Non-paper Office Products</b>	
Office recycling containers and waste receptacles (plastic)	20-100%
Office recycling containers and waste receptacles (steel)	25-100%
Plastic desktop accessories (polystyrene)	25-80%
Plastic-covered binders (plastic)	25-50%
Chipboard, paperboard, pressboard binders	80%
Plastic trash bags	10-100%

In addition to the information provided by EPA and GSA, there are other publicly-available sources of information about products containing recovered materials. For example, the Official Recycled Products Guide (RPG) was established in March, 1989 to provide a broad range of information on recycled content products. Listings include product, company name, address, contact, telephone, fax, type of company (manufacturer or distributor), and minimum recycled content. Price information is not included. The RPG is available on a subscription basis from American Recycling Market, Inc., (800) 267-0707

The Defense General Supply Center in Richmond, VA distributes the Environmentally Preferred Products Catalog, which lists hundreds of environmentally preferable products in its supply system, ranging from aqueous degreasers to remanufactured laser printer toner cartridges. Environmentally preferable means products and services that have less 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. For more information about environmentally-preferable products, call or write:

Defense General Supply Center  
Attn. Marketing Office  
8000 Jefferson Davis Highway  
Richmond, VA 23297-5762  
1-800-848-4847

### **3.11 ELIMINATION OF EPA 33/50 CHEMICALS**

#### Current Conditions

The POs visited used products that contained chemical constituents targeted for reduction or elimination. Several of the POs had paints containing toluene and xylene on the shelf.

#### Pollution Prevention Opportunities

1. Evaluate the contents of all flammable cabinets and storage closets

Each PO staff should perform an inventory of all cabinets used for storage of flammable materials and all storage areas to determine if materials are old, expired, or no longer needed by an operation. Remove expired products, products with constituents on the EPA 33/50 list, products without labels and products that are no longer useful. Expired products should be properly disposed. Consult with the Pittsburgh District environmental coordinator for proper disposal options for these products and their containers.

2. Area-wide exchange program

Products with chemical constituents of concern should be used or made available to other USPS facilities for use. Consider a district or area-wide exchange program for unwanted products or products approaching expiration.

3. Change procurement specifications

Future purchases should specify less or non-toxic alternative products.

4. Inventory management

After completing evaluation and elimination of products and equipment that are no longer useful, PO staff should establish a policy to purchase only what the facility needs and will use within a reasonable time. POs should establish first in-first out management of cleaning products, pesticides, paints and inks.



## **SECTION 4.0**

### **IMPLEMENTATION OF RECYCLING AND ENERGY USE REDUCTION**

#### **4.1 RECYCLING**

Since April, 1995, 19 percent of the Pittsburgh area Post Offices have implemented recycling of UBBM, white paper, corrugated cardboard and aluminum cans. Subsequent to this assessment, all of the POs described in this report are recycling these commodities.

The program utilizes scheduled USPS vehicles to haul recyclables to concentration points. UBBM and white paper are placed into designated recycling sacks with distinctive green tags. In September, 1995, the recycler was paying the USPS \$100 per ton for UBBM, \$292 per ton for white paper, \$175 per ton for loose corrugated and \$195 per ton for baled corrugated cardboard. Avoided disposal costs combined with revenues from the sales of paper and paper products produced savings for the USPS of \$10,000 in the second month of the program.

#### **4.2 ENERGY**

In five test facilities, the USPS has installed simplified controls and a "smart" device for the heating and cooling units. The "smart" device measures and maintains a comfort range for interior temperature. During a six month period, the test facilities realized a 20-22 percent reduction in energy use with associated cost savings.

## **SECTION 5.0**

### **CONCLUSIONS AND RECOMMENDATIONS**

This Pollution Prevention Opportunity Assessment report documents the processes performed, wastes generated and current waste management practices at six USPS Post Offices southwest of Pittsburgh, PA. During the assessment process, the Assessment Team identified opportunities to reduce both the quantity and toxicity of the wastes generated by this facility and recommended techniques for implementation of those pollution prevention options. The opportunities described in the previous sections constitute the recommendations of the Assessment Team. Exhibit 3.1 present a summary of the major recommendations.

Dissemination of this report will encourage application of the pollution prevention opportunities in USPS Post Offices nationwide, as well as in other Federal facilities with similar operations.

## APPENDICES

## EPA 33/50 PROGRAM

The 33/50 Program, one of EPA's Partners for the Environment Program, began in the late 1980s as a voluntary program to reduce toxic emissions of seventeen high priority chemicals reported on the Toxic Release Inventory (TRI). These high priority chemicals, chosen because of their relative toxicities, volumes of use, and potential for reduction through pollution prevention include:

- ▶ Benzene
- ▶ Cadmium and compounds
- ▶ Carbon tetrachloride
- ▶ Chloroform
- ▶ Cyanide compounds
- ▶ Dichloromethane
- ▶ Lead and compounds
- ▶ Mercury and compounds
- ▶ Methyl ethyl ketone (MEK)
- ▶ Methyl isobutyl ketone (MIBK)
- ▶ Nickel and compounds
- ▶ Tetrachloroethylene
- ▶ Toluene
- ▶ 1,1,1-trichloroethane
- ▶ Trichloroethylene
- ▶ Xylenes

The 33/50 Program gets its name from the original goals to reduce the 17 priority chemicals by 33% by 1992 and by 50% by 1995. U.S. EPA celebrated the early achievement of the 50% reduction goal in September 1996, when the 1994 Toxic Release Inventory data became available for public release. Between 1988 and 1994, 33/50 Program participants reduced environmental releases and off-site transfers of the 17 target chemicals by 757 million pounds. Companies and organizations participate in the 33/50 Program by submitting a letter to EPA stating their intention to participate and outlining their reduction targets and strategies. More than 1,300 parent companies operating about 6,000 facilities in the U.S. have participated in the 33/50 Program.

For more information about the participation in the EPA 33/50 Program, contact EPA's TSCA Assistance Hotline at (202) 554-1404. Or contact the 33/50 Program staff directly at:

33/50 Program (Mail Code 7408)  
Office of Pollution Prevention and Toxics  
U.S. Environmental Protection Agency  
401 M Street  
Washington DC 20460  
Phone: 202-260-7538  
POC: Ms. Chris Tirpak  
Email: [tirpak.chris@epamail.epa.gov](mailto:tirpak.chris@epamail.epa.gov)

Information on the 33/50 Program is also available on-line through the Enviro\$en\$e web site: <http://es.inel.gov/partners/3350/3350.html>. This web site contains background information on the 33/50 program, including history and accomplishments. It includes a series of documents related to the 33/50 program that can be accessed directly from the web site.

## OZONE DEPLETING SUBSTANCES

The ozone layer in the stratosphere protects life on earth from exposure to dangerous levels of ultraviolet light. When CFCs and other ozone-degrading chemicals are released into the atmosphere, they will eventually rise to the stratosphere where they destroy the protective ozone layer. This destruction is occurring at a more rapid rate than ozone can be created through natural processes. Destruction of the ozone layer leads to higher levels of ultraviolet radiation reaching Earth's surface. This can lead to higher incidences of skin cancer, cataracts, and weakened immune systems. It is also expected to reduce both crop yields and ocean productivity.

The U.S., in cooperation with over 140 other countries, is phasing out the production of ozone-depleting substances. In 1985, the Vienna Convention was adopted to formalize international cooperation in stratospheric ozone protection. Additional efforts resulted in the signing of the Montreal Protocol in 1987. In the United States, Title VI of the Clean Air Amendments of 1990 addresses the phase out of ozone-depleting substances.

There are two classes of ozone depleting substances. A Class I substance, as defined in section 602 of the Clean Air Act, is any chemical with an ozone-depleting potential of 0.2 or greater (based on CFC-11 having a ozone depleting potential of 1.0). Class I substances (CFCs, carbon tetrachloride, and methyl chloroform) were phased out of production by the end of 1995 and halons were phased out by the end of 1993. Class II substances, hydrochlorofluorocarbons (HCFCs), will be phased out of production and use by the year 2030. Accelerated phase outs of the most damaging Class II substances include HCFC-141b (by January 1, 2003), and CFC-142b and HCFC-22 (by January 1, 2010).

To address the availability of approved alternatives to ozone-depleting substances, the EPA's Office of Stratospheric Protection was mandated to establish the Significant New Alternatives Policy (SNAP) Program. The purpose of the SNAP Program is to identify alternatives to ozone-depleting substances and to publish lists of acceptable and unacceptable substitutes. Information on the SNAP Program is available through the Stratospheric Ozone Hotline at (800) 296-1996.

Executive Order 12843, *Procurement Requirements and Policies for Federal Agencies for Ozone-Depleting Substances*, signed in 1993, requires Federal agencies to comply with Title VI of the Clean Air Act Amendments dealing with stratospheric ozone protection, to maximize the use of safe alternatives to ozone-depleting substances, and to revise procurement practices to eliminate the requirement for ozone-depleting substances.

The best source of technical, policy, and substitute chemical information is the U.S. EPA's Stratospheric Ozone World Wide Web Home Page: <http://www.epa.gov/ozone/index.html> This web site contains information on the science of ozone depletion, substitutes for ozone depleting substances, international policy, and links to other sources of information. It can be

used as a "jumping off" point for a wide variety of information related to ozone depletion available on the World Wide Web.

The U.S. EPA Office of Stratospheric Protection also operates the Stratospheric Ozone Hotline at (800) 296-1996. It can be accessed between 10am and 4pm EST. They can field any technical or policy related questions on elimination of ozone depleting substances at U.S. Postal Service facilities.

The mailing address for the Office of Stratospheric Protection is:

Office of Stratospheric Protection  
U.S. Environmental Protection Agency  
Mail Code 6205J  
401 M St., SW  
Washington, DC 20460

Enviro\$en\$e also has access to several material substitution databases. Their World Wide Web address is:

<http://es.inel.gov>

Select "Solvent Substitution Data Systems" for links to several material substitution databases including those that specialize in solvents with ozone depleting ingredients.

## **EPA GREEN LIGHTS PROGRAM & THE FEDERAL ENERGY MANAGEMENT PROGRAM (FEMP)**

The Green Lights Program is a voluntary pollution prevention program that encourages the use of energy-efficient lighting. It is one of the several ENERGY STAR® Programs sponsored by the U.S. EPA's Atmospheric Pollution Prevention Division.

The purpose of the Green Lights Program is to encourage organizations to install energy-efficient lighting to prevent the creation of air pollution including greenhouse gases, acid rain emissions, air toxics, and tropospheric ozone, as well as prevent the generation of solid waste and minimize other environmental impacts of electricity generation.

Green Lights partners agree to install energy efficient lighting where it is profitable as long as lighting quality is maintained or improved. Participants realize average rates of return on their initial investment of 30 per cent or more. Most reduce their lighting electricity bill by more than half while maintaining and often improving lighting quality.

Federal regulations and directives require Federal agencies to reduce energy use. Section 543 of the National Energy Conservation Policy Act, as amended by the Energy Policy Act of 1992, requires each agency to achieve a 10 percent reduction in energy consumption in its Federal buildings by FY 1995, when measured against a FY 1985 baseline on a Btu per gross-square-foot basis and a 20 percent reduction in Btu per gross-square-foot by FY 2000. In 1994, the President signed Executive Order 12902, *Energy Efficiency and Water Conservation at Federal Facilities*, which requires Federal agencies to reduce energy consumption by 30 percent by the year 2005, based on the agency's 1985 energy use.

In response to these mandated requirements, the U.S. Department of Energy's Federal Energy Management Program was established to assist Federal agencies to reduce energy costs by advancing energy efficiency, water conservation, and the use of solar and other renewable energy. FEMP accomplishes its mission by creating partnerships, leveraging resources, transferring technology, and providing training and support. For information on the Federal Energy Management Program contact the FEMP Help Desk at (800) DOE-EREC or the FEMP Office at (202) 586-5772.

The Department of Energy's Federal Energy Management Program has teamed up with the EPA's Green Lights Program to assist Federal agencies to achieve the mandated energy reductions. A kick-off is planned in March 1997. The U.S. Postal Service is one of the first to sign up to this new collaborative effort as a pilot agency. For more information, contact Rob White, National Marketing Director for Green Lights and ENERGY STAR® Buildings, at (202) 233-9242.



EPA provides a range of Participant Support Programs to help Green Lights members obtain information on energy-efficient lighting technology, financing options, software analysis tools, and public recognition opportunities.

For more information about the Green Lights Program, contact:

Manager, Atmospheric Pollution Prevention Division  
U.S. EPA

401 M Street SW (6202J)

Washington DC 20460

Tel: (202) 233-9190

Toll Free: (888) STAR-YES

Fax: (202) 233-9569

Fax-back system: (202) 233-9659.

The Green Lights World Wide Web Home Page is at:

Green Lights Home Page

<http://www.epa.gov/greenlights.html>

This web site includes general information about the Green Lights program, manuals and publications, software tools, and other technical information.

The Federal Energy Management Program Home Page is at:

Federal Energy Management Program Home Page

<http://www.eren.doe.gov/femp/>

This web site provides news, technical assistance, project financing information, and procurement information to assist Federal agencies achieve the mandated energy use reductions.

U.S. Postal Service participates as a member of the Federal Interagency Energy Management Task Force. Contact Mr. Bernie Denno, Environmental Programs Analyst, at (202) 268-6014 for specific information on U.S. Postal Service involvement in FEMP and Green Lights Programs.

## **EPA ENERGY STAR® PROGRAM**

The ENERGY STAR® Program is a voluntary pollution prevention program aimed at reducing energy consumption to help to combat smog, acid rain, and climate change through decreased emissions from electricity generation. It includes programs aimed at homes, residential HVAC, office products, buildings, and lighting. Programs of interest to the U.S. Postal Service include:

- ▶ Office Products. The EPA ENERGY STAR® Office Equipment program is a partnership with the office equipment industry to promote energy-efficient personal computers, monitors, printers, fax machines, and copiers. In 1993, an Executive Order 12845 was issued requiring all U.S. Federal agencies to purchase ENERGY STAR® computers, monitors and printers.
- ▶ Buildings. EPA's ENERGY STAR® Buildings program is a voluntary energy-efficiency program for U.S. commercial buildings. Partners can expect to reduce total building energy consumption by 30% on average.

For more information about the ENERGY STAR® Program, contact:

ENERGY STAR® Programs

U.S. EPA Atmospheric Pollution Prevention Division

401 M Street SW (6202J)

Washington DC 20460

POC: Ms. Jeanne Birskin, Chief, ENERGY STAR® Programs

Tel: (202) 233-9190

Toll Free: (888) STAR-YES

Fax: (202) 233-9569

Fax-back system: (202) 233-9659.

The ENERGY STAR® World Wide Web Home Page is at:

ENERGY STAR® Home Page

<http://www.epa.gov/energystar.html>

This web page contains news and information on all of the ENERGY STAR® initiatives.

The Atmospheric Pollution Prevention Division also prepares a newsletter, *The Update*, which communicates events, highlights, and news affecting Green Lights and ENERGY STAR® program participants. It is available on-line through the ENERGY STAR® Home Page.

## FLUORESCENT TUBE AND BALLAST RECYCLING

Fluorescent tubes and lighting ballasts contain hazardous constituents that can make their handling and disposal problematic. Fluorescent tubes contain mercury, which under Federal regulations, may be subject to hazardous waste regulations if deemed hazardous by the Toxicity Characteristic Leaching Procedure (TCLP) (40 CFR 261). Fluorescent lamp ballasts may contain polychlorinated biphenyls (PCBs). Ballasts manufactured before 1979 will contain PCBs, while those manufactured after 1979 should contain a label stating "NO PCBs." If there is no label, you should assume that it contains PCBs. PCB-containing ballasts that are intact and are not leaking can be disposed in a municipal solid waste landfill in properly packed and sealed 55-gallon drums (40 CFR 761). Again, municipal disposal of PCB-contaminated waste poses potential liabilities to the generator.

Individual states may have other specific regulatory requirements governing the disposal of fluorescent tubes. However, in most cases fluorescent tubes can be legally handled and disposed as municipal solid waste, creating a potential liability to the waste generator. To minimize potential environmental impacts, fluorescent tubes can be recycled. The mercury containing material can be extracted, while the remaining glass and metal parts can be recycled. This eliminates mercury going to the landfill, while decreasing the volume of solid waste disposal through recycling.

Before disposing of fluorescent tubes or lighting ballasts, you should contact your state or local regulatory agency for specific handling and disposal requirements. They may also have information on fluorescent tube recycling in your state or area. Consult your local telephone directory for phone numbers.

For information on Federal requirements, contact the following:

Resource Conservation Recovery Act (RCRA/Superfund/Right-to-Know Hotline

Phone: (800) 424-9346 or (703) 412-9810 in the Washington DC area.

Request documents such as *EPA Fact Sheet: Options for Disposal of Lights that Contain Mercury and Lighting Waste Disposal*, a general document published by the EPA's Green Lights Program on best management practices that includes recycling. Memorandums on the subject are also available through the fax-on-demand system. Dial (202) 651-2060 from the fax phone receiver, press 1 to order documents, press 11906 and 11907 (press 1 to confirm ordering each document), press # to finish ordering, then press start on your fax machine.

Toxic Substances Control Act (TSCA) Assistance Information Hotline

Phone: (202) 554-1404

Request regulatory guidance on the management and disposal of ballasts that contain PCBs.

Several fact sheets are available over the World Wide Web that contain background information as well as lists of fluorescent tube and lighting ballast recyclers:

U.S. Air Force Center for Environmental Excellence, PRO-ACT

<http://www.afcee.brooks.af.mil/pro-act/main/proact4.htm>

Select "Fact Sheets" from Home Page menu. Information in the PRO-ACT web site is public domain. However, telephone inquiries and requests for research or information are only available to Air Force users.

EnviroSenSe

<http://es.inel.gov/techinfo/facts/lamps-fs.html>

Fact sheet on disposal of spent fluorescent light tubes, developed by the Department of Public Works, City of Los Angeles. Contains a list of additional resources.

## POLLUTION PREVENTION INFORMATION SOURCES

Pollution prevention information sources are widespread. There are Federal-, state-, regional, and even local sources of pollution prevention information. At the Federal level, the U.S. EPA Office of Pollution Prevention and Toxics (OPPT) distributes a variety of pollution prevention information and oversees several pollution prevention initiatives. They publish the *Pollution Prevention News*, available in hard copy or through the U.S. EPA Pollution Prevention Home Page (see below for URL). OPPT also operates the Pollution Prevention Information Clearinghouse (PPIC). It is a free, non-regulatory service which provides telephone reference and referral, document distribution for selected EPA documents, and a special collection available for interlibrary loan. Publications available from PPIC are listed on the U.S. EPA Pollution Prevention Home Page (see below for URL).

### Pollution Prevention Information Clearinghouse (PPIC)

Phone: 202-260-1023 (8:30 AM to 4:00 PM EST)

Fax: 202-260-4659

E-Mail: [ppic@epamail.epa.gov](mailto:ppic@epamail.epa.gov)

Mail: Pollution Prevention Information Clearinghouse  
Environmental Protection Agency, MC 7409  
401 M Street, SW  
Washington, D.C. 20460

EPA Contact: Beth Anderson 202-260-2602

When calling PPIC for the first time, request a listing of all available documents. A more useful document for the first time user is the *Pollution Prevention Directory* (EPA/742/B-94/005) which identifies Federal, state, regional, and commercially-available pollution prevention resources.

Some of the more popular World Wide Web starting points for Federal, state, and regional pollution prevention information include the following:

### U.S. EPA Pollution Prevention Home Page

<http://www.epa.gov/opptintr/p2home/>

This web site provides general information on pollution prevention, pollution prevention initiatives, and links to other pollution prevention-related web sites.

### Enviro\$en\$e

<http://es.inel.gov/>

Enviro\$en\$e is a "one-stop" repository for pollution prevention, compliance assurance, and enforcement information and data bases. Included are pollution prevention case studies, technologies, points of contact, environmental statutes, executive orders, regulations, and compliance and enforcement policies and guidelines. Enviro\$en\$e has numerous links to other Federal, regional, state, industry and academic pollution prevention resources. Enviro\$en\$e is an excellent "jumping off" point for additional pollution prevention information available on-line.

Defense Environmental Network & Information Exchange (DENIX)

<http://denix.cecer.army.mil/denix/public/public.html>

DENIX is a source of information for the Department of Defense agencies and other authorized users. It has a public access menu which allows users from the public domain to obtain a variety of environmental information. Under the "Public" web page, select "Library" then "Pollution Prevention" for numerous pollution prevention articles and information.