United States
Environmental Protection
Agency

National Risk Management
Research Laboratory
Cincinnati OH 45268

Research and Development

EPA/600/SR-96/111 September 1996

EPA

Project Summary

Pollution Prevention Assessment U.S. Postal Service Bulk Mail Center, Dallas, TX

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As part of its Waste Reduction Evaluation at Federal Sites Program, the U.S. Environmental Protection Agency (EPA) National Risk Management Research Laboratory worked cooperatively with the U.S. Postal Service (USPS) to integrate waste prevention and recycling activities into the waste management programs at various postal facilities through the conduct of pollution prevention opportunity assessments (PPOA). The PPOA summarized here was conducted at the USPS Bulk Mail Center (BMC) located in Dallas, TX.

The report describes the mission of the BMC including operations performed, processes and materials employed, and the wastes and emissions generated. The report makes recommendations concerning the procurement of office supplies, maintenance supplies, and hazardous materials; management of hazardous materials and wastes; purchase of chemicals on EPA's 33/50 list; improvement of source separation and recycling of paper and paper products, metals, and plastics; management of unwanted equipment; and other options for reducing or eliminating pollution.

This Project Summary was developed by EPA's National Risk Management Research Laboratory, Cincinnati, OH, to announce key findings of the research project that is fully documented in a separate report of the same title (see Project Report ordering information at back).

Introduction

Since 1988, EPA's National Risk Management Research Laboratory (NRMRL) 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 industries.

The U.S. Postal Service (USPS), in cooperation with NRMRL's WREAFS program, 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 was to perform pollution prevention opportunity assessments (PPOAs) at Postal Service facilities, recommend implementation strategies, and develop facility guidance that can be incorporated into a revision of the USPS *Waste Reduction Guide*. The project was funded by the U.S. Postal Service through an interagency agreement with EPA NRMRL.

This report describes the findings of the PPOA conducted for the U.S. Postal Service Bulk Mail Center (BMC) located in Dallas, TX. The site assessment was conducted during the week of May 15, 1995.

Facility Description

The BMC facility in Dallas, TX, performs the sorting and routing of packages and bulk business mail for Texas, Oklahoma, and parts of Kansas, Arkansas, and Louisiana as part of a national network of mechanized bulk mail centers that process third and fourth class mail. The facility employs approximately 1,600 individuals and operates three eight-hour shifts per day, six days per week and two shifts on Sunday. An additional 300 workers are hired during the Christmas holiday season.

The BMC facility occupies 75 acres; the main building contains approximately

452,000 square feet of space. In addition, the facility houses a 2,000 sq. ft. lubrication storage area; a 2,048 sq. ft. former vehicle repair shop that is now used to repair "over-the-road" (OTR) aluminum mail-transport equipment and as a fuel and oil dispensing area for postal vehicles; and a 1,000 sq. ft. shed that houses groundskeeping equipment and miscellaneous machinery. The BMC also has two remote sites: a USPS-owned warehouse, which is shared with the Dallas General Mail Facility and a leased facility of 59,000 sq. ft. that houses the Crossdock Pallet Facility.

Waste Management

Wastes generated by BMC operations include excess and obsolete equipment and supplies; corrugated cardboard; computer paper; white paper; mixed office paper, including forms and envelopes; magazines and newsprint; undeliverable bulk business mail (UBBM) and "loose-in-mail" pieces (LIMs); employee wastes, including cans, bottles, wrappers, and food; pallets; shrink and stretch wrap; aluminum and other metals; wood; fluorescent tubes and lighting ballasts; batteries; plastic and metal strapping; rags; and oil filters and waste oil. Additionally, the BMC facility generates small quantities of hazardous wastes from aerosol cans, primarily paints and oils. In 1994, one 55-gallon drum of F003 and F005 waste was generated. Exhibit 1 presents the composition of the solid waste stream, the current management practice for each component, and a summary of pollution prevention opportunities. Exhibit 2 summarizes the current costs of waste collection.

Pollution Prevention Opportunities

Exhibit 3 presents the pollution prevention opportunities that offer the USPS significant cost reductions in addition to reducing pollution. The primary pollution prevention opportunities identified by the PPOA are addressed in the sections below.

Environmental Oversight

- Appoint an Environmental Coordinator to monitor environmental issues and implement opportunities to reduce waste and prevent pollution at the facility.

Reuse and Recycling

The BMC presently receives approximately $100,000 in annual revenue from its old corrugated cardboard (OCC) recycling program (recycled gaylord boxes), approximately $9,600 in annual revenue from scrap metal recycling, and in 1995, to date, the BMC has received $7,929 in revenue from scrap aluminum recycling. Postal employees use metal OTR containers to move mail between facilities, although this was not their intended use, and facilities hoard OTRs for the holiday season. The BMCs have no control over the OTR inventory, thus OTRs are not readily available to move the mail in the BMC service area. To solve the problem of access to mail transport equipment, the USPS has designed the Integrated Mail Handling System, which would substitute cardboard gaylord boxes for the reusable OTRs and require modifying existing mail handling equipment to accommodate the gaylords. Recommendations are

- Cancel the Integrated Mail Handling System, and use OTRs instead of cardboard gaylord boxes.
- Purchase enough additional OTRs or other permanent mail transport equipment for the nationwide movement of non-peak period mail volume and design and implement a nationwide bar-code labeling and tracking system for the OTRs.
- Reuse cardboard gaylord boxes that enter facility, rather than recycling them after one use. One reuse of each gaylord will reduce costs by $500,000.

Exhibit 1. *BMC Solid Waste Generation and Pollution Prevention Opportunities*

Waste	*Current Management*	*Opportunities*
Obsolete, damaged or defective equipment	*Disposed or sold as scrap*	*Repair at USPS Computer Repair Facility (CRF) in Topeka KS, reuse*
Corrugated cardboard	*Some reused, gaylords recycled, other cardboard disposed*	*Reduce use of gaylords, increase use of OTRs, reduce incoming boxes, reuse boxes, improve diversion for recycling*
Computer print-out	*Discarded as waste*	*Reduce generation, divert for recycling*
White paper	*Some recycled*	*Reduce generation, improve diversion for recycling*
Mixed paper	*Discarded as waste*	*Reduce generation, divert for recycling*
Magazines	*Discarded as waste*	*Reduce generation, divert for recycling*
Toner cartridges	*Returned for recycling*	*Continue recycling*
Pallets	*USPS pallets sent to Arlington facility for redistribution. Pine pallets sold as scrap for mulch*	*Reduce variety, reuse pine pallets, establish recycling options for pine pallets*
Plastic stretch wrap	*Discarded as waste*	*Reduce generation, divert for recycling*
Rags	*Discarded as waste*	*Investigate rag service feasibility*
Fluorescent tubes	*Discarded as waste*	*Improve ambient light, install motion sensitive lighting, divert for recycling*
Strapping	*Discarded as waste*	*Divert for recycling*
Oil	*Rerefined*	*Purchase rerefined oil*
Alkaline Batteries	*Recycled*	*Use rechargeable batteries*
Lighting Ballasts	*PCB ballasts managed as hazardous, nonPCB ballasts recycled*	*Improve ambient light, install motion sensitive lighting, turn lights off*

Exhibit 2. *Current Cost of Waste Collection*

Material	*Container Size*	*Collection Frequency*	*Monthly Fee*	*Annual Cost*
Mixed Waste at BMC	*40 cu yd*	*12 per month*	*$147.50 per pull or $1,770 per month*	*$21,240*
Mixed Waste at CPF	*6 cu yd*	*26 per month*	*$3,145*	*$37,740*
Oily Rags	*55-gallon drum*	*3-4 drums per month*	*$400 per drum or $1,200 to $1,600 per month*	*$14,400 to $19,200*
Total				*$73,380 - $78,180*

Exhibit 3. *Cost-Saving Pollution Prevention Opportunities*

Item(s) of Concern	*Current Practice*	*Pollution Prevention Opportunity*	*Summary of Estimated Potential Savings/Revenues*
Gaylords/OTRs	*Use disposable gaylords in place of durable aluminum OTRs.*	*Purchase sufficient quantity of reusable OTRs and maintain for 10 years.*	***Cost Per Trip:*** Aluminum OTR[a] — *$1.40 (150 trips/ yr for 10 yrs)*; Cardboard Gaylord — *$5.41 (single use)*. *After 39 trips/year, OTRs are more cost effective than single use gaylords. Potential savings of $4.01 per trip.*
Cardboard Gaylords	*Recycle after single use.*	*Reuse gaylords.*	*Based on annual purchase costs of $1,000,000, potential savings for single reuse of each gaylord equal $500,000.*
Old Corrugated Cardboard	*Recycle cardboard gaylords Dispose remaining 30 percent of OCC stream as waste.*	*Continue current recycling practices. Utilize baler and recycle remaining OCC.*	*Approximately $100,000 revenue (at 60 tons/mo and $140/ton) for gaylords. Approximately $100 to $140 per ton in revenue for each additional ton of corrugated cardboard recycled.*
Rags	*Purchase new rags Dispose rags by incineration*	*Launder rags Dispose 25 percent of rags annually*	***Year 1*** Laundering[b] *$2.17/lb*; New[c] *$2.23/lb*; Cost Savings *$414*. ***Year 2*** Laundering[b] *$2.06/lb*; New[c] *$2.23/lb*; Cost Savings *$1,173*

[a] *$1,138 purchase cost and $1,000 lifetime maintenance cost*

[b] *Cost of laundering rags is approximately $10,350 annually; annual disposal costs with laundering are $3,600.*

[c] *Purchase of new rags costs approximately $1030 annually; annual disposal costs are $14,400.*

- Reuse cardboard boxes in other processing operations.
- Segregate for recycling the OCC that cannot be reused.
- Improve the office paper recycling system.
- Reduce the quantity of UBBM and recycle rather than dispose of LIMs.

Pallets

- Establish a formal recycling system for pine pallets. Recyclers will repair or rebuild pallets for resale. Several pallet recycling services are available in the Dallas area.

Fluorescent Lights

- Establish a fluorescent tube recycling program for the 1,500 fluorescent tubes used at this facility.

Rechargeable Batteries

- Purchase rechargeable batteries and a charging unit to recharge the batteries. GSA has available rechargeable alkaline batteries that offer the high performance attributes of regular alkaline batteries along with the cost and environmental benefits of a reusable system.

Affirmative Procurement

- Establish preference programs and adopt specifications for the purchase of products made with the percentages of recovered materials specified in EPA Guidelines.

Lighting

- Increase the use of motion sensitive lighting.
- Install motion sensitive lighting in infrequently used areas.
- Establish a "lights out" policy.
- 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.
- Increase the use of ambient lighting.
- Become a Federal Partner in the Green Lights Program.

Computers

- Procure computers that meet Energy Star requirements.

Battery Charging

- Review procedures on the proper charging of batteries to prevent accidental acid overflows.

Dedicated Oil Containers

The Dallas BMC has a bulk distribution system which stores several types of oil and a solvent called Pro-Power, an oil emulsifier, but the facility uses one container to transfer the products. This process generates unnecessary waste because excess oil is disposed, instead of being reused, and because the containers must be cleaned with solvent after each use. Therefore, dedicated containers should be purchased and used for each specific material.

Conclusions and Recommendations

The BMC facility has taken admirable steps in terms of implementing a relatively aggressive recycling and reuse program for many commodities, such as OCC, metal, and pallets. In terms of OCC, the BMC should focus on reusing cardboard gaylord boxes, replacing these with durable aluminum OTRs, and capturing for recycling the 20% to 30% of the OCC stream that is disposed. The BMC should investigate a rag laundering service and also should implement more aggressive policies to reduce the amount of paper waste generated and disposed, most notably UBBM and LIMs. Facility staff showed an openness to pollution prevention ideas and should continue to explore new options such as energy savings through daylighting, the Green Lights program, and procurement of Energy Star computers, as well as more simple options such as lights out policies, double-sided copying, and adopting an affirmative procurement policy.

The full report was submitted in partial fulfillment of Contract No. 68-C2-0148, Work Assignment 3-10 by Science Applications International Corporation under the sponsorship of the U.S. Environmental Protection Agency.

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***James S. Bridges and N. Theresa Hoagland** are the EPA Project Officers (see below).*

The complete report, entitled "Pollution Prevention Assessment, U.S. Postal Service, Bulk Mail Center, Dallas, TX," (Order No. PB97-100028; Cost: $25.00, subject to change) will be available only from

National Technical Information Service
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