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Title: **Pollution Prevention in an Administrative Office Setting**

Author(s): Brian Thompson

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Pollution Prevention in an Administrative Office Setting

by

Brian Thompson, Los Alamos National Laboratory, Environmental Stewardship Office,
(bdt@lanl.gov, 505-667-9308)

Summary

Pollution prevention in an industrial setting frequently focuses most on hazardous or radiological waste streams. Applying P2 methodology to administrative tasks can also show measurable benefits by addressing typical office environments. In addition to producing quantifiable results, such projects involve a wider cross-section of employees and broaden the support base for the creation of the organization's pollution-prevention culture.

Abstract

Organizations generally focus a great deal of attention on their hazardous or radiological waste streams because of the high potential of environmental damage, the stringent regulatory requirements associated with such waste generation, and the more intense scrutiny of both stakeholders and the public in general. Wastes associated with typical administrative tasks, on the other hand, usually receive lower priority because of the smaller perceived return on investment and the lack of a sense of urgency for addressing these wastes. In reality, dealing with administrative office wastes and minimizing resource consumption in office settings is cost effective and produces both quantifiable and generalized benefits.

Los Alamos National Laboratory is conducting a systematic pilot project aimed at reducing waste generation and resource consumption in a typical office environment. Focusing on the Laboratory's Business Operations Division and the Human Resource Division, which are collocated primarily in one office building, the project involves a wide variety of stakeholders who are identifying wastes generated and resources consumed, determining existing baseline performance information, setting priorities for potential areas for improvement, and then developing and implementing improvement action plans.

The project is producing specific, measurable results for actions designed to reduce waste, to lower consumption of resources, and to increase operational efficiency. In addition, the project is generating other less tangible but equally positive benefits. For example, the project allows all employees to become involved in pollution prevention and contribute to activities with measurable results. The project is also broadening the support base for the creation of the Laboratory's pollution-prevention culture.

Keywords: pollution prevention, office, sanitary waste, resource conservation, affirmative procurement

Introduction

During the past year, Los Alamos National Laboratory has participated in the New Mexico Green Zia Environmental Excellence Program, a state-wide initiative designed to encourage businesses to focus on pollution prevention as a economic business advantage. Established by the 1998 New Mexico legislature, the Green Zia Program is administered by the New Mexico Environmental Alliance, a partnership of state, local, and federal agencies; academia; business and industry; and environmental advocacy groups. The basic premise of the program is that waste is the result of inefficiency and by reducing waste a company can increase its profits. The environmental benefit is clear: waste that is never created does not pollute.

As a major focus of the New Mexico Environment Department (NMED), the Green Zia Program encourages New Mexico organizations to reduce waste, save money, and improve overall environment, health and safety performance by establishing pollution prevention-based environmental management systems and integrating environmental excellence into core business practices. Rather than focusing on regulatory compliance and potential fines for poor environmental performance, the Green Zia Program urges organizations to adopt a positive, proactive approach to environmental protection. While the program provides annual recognition for noteworthy performance, it also stresses the need for continuous improvement.

LANL's Environmental Stewardship Office (ESO) has adopted a long-range strategy of concentrating on the Green Zia Program as a method of promoting continuous environmental learning and improvement throughout LANL. ESO uses the program, coupled with LANL's Integrated Safety Management system, to more extensively deploy a pollution-prevention philosophy throughout the institution and to encourage the identification of opportunities to improve environmental performance. The strategy's intent is to begin with a series of pilot projects focused on smaller LANL work units and gradually build toward a state where the entire Laboratory achieves environmental excellence. (See Fig. 1.) For 1998-1999, LANL conducted three Green Zia pilot projects.

In May of this year ESO began identifying new pilot projects. While LANL operations involving hazardous materials command extensive pollution-prevention efforts, a large number of LANL employees spend a high percentage of their time in an office environment. Because of this fact, ESO selected one Green Zia pilot project to focus on typical administrative office waste.

Project Scope

The current project involves efforts of LANL's Business Operations Division (BUS) and Human Resources Division (HR), both located in the Laboratory's Otowi Building in Technical Area 3. (See Fig. 2) The Otowi Building houses approximately 640 employees, the majority of whom are members of BUS or HR. Although the facility also contains a cafeteria, that portion of facility operations is being addressed as a separate project.

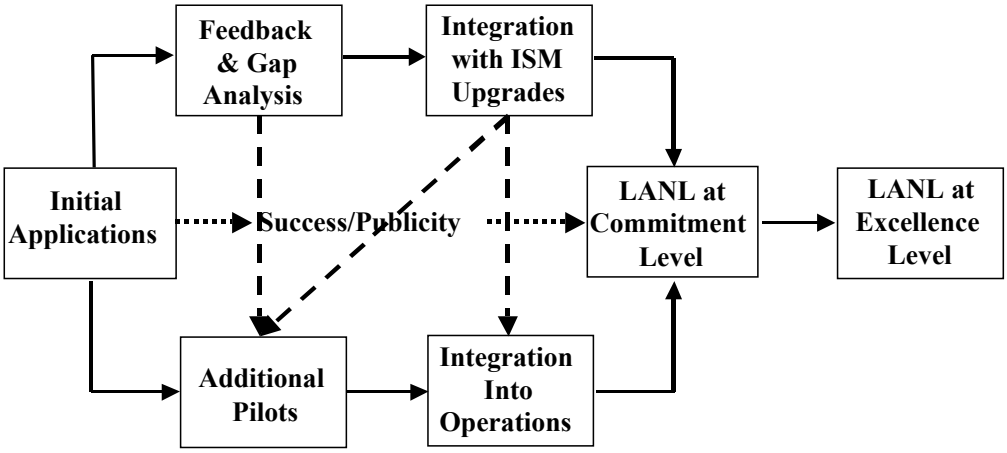

Fig. 1. ESO's plan to use the Green Zia Program to move LANL toward environmental excellence.

Fig. 2. Interior view of LANL's Otowi Building.

BUS is responsible for delivering business information and related expertise to the Laboratory. Typical work areas include the following: business planning and analysis, property management, travel, packaging and transportation, budgeting, procurement, food services management, and accounting.

HR is responsible for a wide range of activities related to personnel issues. Core work areas include the following: compensation and benefits, employee relations, human resources information management, staffing, training, and management of distributed services.

Project Oversight

ESO initiated the project by soliciting the support of senior managers for both BUS and HR. The division managers in turn identified key staff to serve on an oversight/ coordination committee. This committee meets biweekly to identify common issues, to develop solutions, and to monitor progress. At LANL, facility management is handled by the Facility and Waste Operations Division (FWO) as a distributed service. At the start of the pilot project ESO invited the facility manager for the Otowi Building or his designee to also sit on the oversight committee. Thus, project management is shared among four organizations: ESO, BUS, HR, and FWO.

Project Initiatives

One of the first steps for the oversight team was to collect baseline information regarding current environmental performance. In some cases information was readily available, in some cases the data was nonexistent, and in a few cases it was difficult to identify adequate methods for selecting and collecting necessary information. For some initiatives, the oversight team is still awaiting baseline measurements. Table I presents some sample baseline data.

Table I. Sample Otowi Baseline Data

Measure	BUS	HR	Total
Administrative Waste Disposed (yr)			98 tons
Paper Purchases (yr)	~87,400 reams	~11,100 reams	~98,500 reams
Affirmative Procurement	76%	68%	75%
Photocopies Made (yr)	108,581 (FY95 base)	649,340 (FY99 base)	

The oversight team solicited input from employees housed in the facility and then generated a list of possible areas of focus for reducing waste and pollution. The list (see Table II) included a wide range of actions, which were all initially considered, and also incorporated LANL initiatives already under way but which would benefit from wider publicity or fuller participation.

Discussion of Initiatives

Paper Use: Three initiatives in this focus area are aimed at reducing the amount of paper used as well as ensuring full recycling of paper consumed. Although many offices already have access to two-sided printers and copiers, both BUS and HR made a concerted effort to ensure that individual printers were set for two-sided printing by default. In some cases, the organizations purchased duplexing trays, and in BUS employees were encouraged to save scrap paper printed on only one side for later reuse of the clean side.

LANL has in place an extensive program to recycle white paper. Because both BUS and HR produce a large quantity of sensitive documents, these papers are typically shredded and

Table II. Potential Otowi Project Initiatives

Focus Area	Possible Initiatives	New/Existing
Paper Use	• Wider use of two-sided printers/copiers	New
	• Recycling of shredded paper	Existing
	• Wider use of electronic documents	Existing
Cardboard Recycle	• Promote more extensive recycling	Existing
	• Use compacting recycling bins	New
Reuse/Recycle of Office Supplies	• Develop systematic reuse of surplus office supplies	New
General Recycling	• Recycle aluminum cans	Existing
	• Recycle styrofoam	New
	• Recycle computer disks	New
	• Segregate food-contaminated waste from recyclable waste	New
	• Include recycling options in planned building upgrades	New
Reuse of Office Equipment	• Publicize equipment swap web site	Existing
	• Make better use of surplus equipment	Existing
Mail	• Use Mail Stop A1000 (mail recycle)	Existing
	• Use Stop Mail (junk mail elimination)	Existing
Procurement	• Make better use of affirmative procurement	Existing
Pollution Prevention Awareness	• Develop facility-specific guidelines	New
	• Schedule P2 lectures	Existing
	• Participate in New Mexico Green Zia Environmental Excellence Program	New

disposed of separately. The oversight team conducted an information campaign to let employees know that shredded paper is also recyclable and provided instructions on where to place such material for collection and inclusion in the recycling program. The facility manager arranged for more frequent collection of such materials, making it easier for employees to recycle.

Finally, both organizations have promoted the use of electronic documents instead of paper ones. Table III shows the reduction of paper copies in the Accounts Payable area of BUS. HR has also adopted electronic documents for some of its operations. Resumes from job applicants for both regular and student positions are now filed electronically, saving approximately 10,000 sheets of

paper in the past half. Personnel records are also provided electronically, with an estimated savings of 20,000 pieces of paper per year. Several the LANL documents, including administrative policies, are provided electronically, and the facility manager now distributes the building safety plan electronically instead of providing paper copies to building occupants.

Table III. Reduction of Paper Copies in Accounts Receivable Because of Electronic Documentation.

Year	Copies
FY95	108,581
FY96	88,240
FY97	94,439
FY98	79,808
FY99	62,892

Cardboard Recycle: In addition to promoting more extensive recycling of cardboard, the single biggest issue in this focus area concerns economy of scale. Because cardboard is bulky but light, transporting loose cardboard is not economically prudent. The oversight is currently investigating the rental or purchase of a baler. Such equipment will minimize storage space of cardboard awaiting recycle and will reduce the amount of transportation required for a given volume of material.

Reuse/Recycle of Office Supplies: At LANL in general, employees frequently change office locations. After such moves, usable but unwanted office supplies are often left for a new occupant or are disposed of. Both BUS and HR are considering efforts to provide a central storage location where such supplies, ranging from file folders to staples to desk accessories, can be collected and made available to workers for use as needed. Because critical concerns involving storage space and oversight have not yet been resolved, an overall program for the entire facility has not been implemented. The proposal appears sound, however, and may be initiated in the near future.

General Recycling: Employees already have a general awareness of aluminum recycling, so efforts in this initiative revolve around providing convenient, safe containers for collection of cans.

The oversight team identified styrofoam and floppy computer disks as two waste materials requiring attention. While some disks can be reused after being thoroughly erased, the team found no economically or environmentally method of recycling them. Similarly, the team found no solution to the problem of styrofoam, which is most often encountered as packing.

LANL has recently implemented a major recycling/recovery effort for sanitary solid waste, and the contents of most dumpsters are now being sorted and segregated. To make the recovery of salvageable materials easier, BUS and HR, with the cooperation of the facility manager, will be implementing a system of dual trash containers throughout the building. The pairs of trash

containers, color coded, will allow employees to separate food-contaminated waste (which represents approximately 25% of LANL's solid sanitary waste) from recyclable waste.

The facility manager has also agreed to begin considering recycling options in planned building upgrades. Within the next year or two, carpeting throughout the Otowi Building will be replaced. In addition to evaluating the possibility of using recycled carpeting as a replacement, the facility manager will also investigate options for sending the old carpet to be recycled rather than disposing of it. Because the building contains approximately 75,000 square feet of carpet, such an initiative will have significant impact.

Reuse of Office Equipment: In this focus area, the oversight team established no new initiatives but encouraged wider use of two existing LANL programs. The first program consists of a web site at which organizations can advertise the availability of equipment that is no longer needed by the owning organization. This "swap shop" makes the transfer of office equipment simple and quick. LANL also has an established program for identifying and centrally collecting surplus equipment. LANL organizations have the opportunity to check the salvaged material before ordering new equipment.

Mail: LANL currently has two programs aimed at minimizing the environmental impact of junk mail. The first program, called Mail Stop A1000, allows employees to designate junk mail (including items such as books, magazines, and other printed material) for pickup during regular LANL mail delivery. The unwanted material is collected at the LANL mail center, sorted as necessary, and turned over for recycling. Table IV shows the success of this program over the past year.

Table IV. Volume of Material Collected for Recycle Through Mail Stop A1000.

Month		Total Pounds	Metric Tons
October	1998	19,800	9.00
November	1998	9,000	4.09
December	1998	21,600	9.82
January	1999	36,000	16.36
February	1999	27,000	12.27
March	1999	30,600	13.91
April	1999	36,000	16.36
May	1999	28,800	13.09
June	1999	18,000	8.18
July	1999	28,800	13.09
August	1999	19,800	9.00
September	1999	28,800	13.09
Total		**304,200**	**138.27**

A second program, only recently begun, is called Stop Mail. In this program, employees designate mail they no longer wish to receive or mail that is still being received for individuals who are no longer employed by LANL. The Stop Mail team contacts the organization responsible for sending the unwanted mail and asks to have the employee's name removed from

the mailing list. This not only eliminates the one-time occurrence of unwanted mail, it also prevents the future mailing of items such as catalogs, promotional fliers, and organizational solicitations.

Procurement: Affirmative procurement (green purchasing) is already an emphasis for LANL. Both BUS and HR are aware of their respective performance in this area and are making concerted efforts to maintain or improve the percentage of material purchased that contains recycled content.

Pollution Prevention Awareness: ESO currently offers brief presentations dealing with pollution prevention and resource conservation. Both BUS and HR will make use of these presentations at meetings of various work units. In addition, the oversight team has agreed that reference brochures with facility-specific information will be made available for occupants of the Otowi Building. These brochures will outline specific steps for dealing with waste as well as possible ways to minimize waste generation. Finally, both organizations will participate in the New Mexico Green Zia Environmental Excellence Program. This pollution-prevention program encourages the structured use of pollution-prevention tools, systematic self-assessment, and evaluation of an awards application by a team of impartial, external examiners. These activities, in total, are leading to increased employee awareness of pollution prevention and more active participation throughout the organizations.

Summary

Although LANL's pilot project to minimize pollution in an administrative office setting is still in its early stages of deployment, the program has generated support and interest among the affected organizations. Participants have identified and investigated numerous possible avenues for minimizing waste, implementing several while postponing others. In some cases, the project has developed new initiatives to address needs, and in other cases the oversight team has elected to promote fuller participation in existing institutional programs. Although developing performance measures and collecting baseline information has been challenging, several initiatives are showing significant results. While institutions such as LANL typically focus significant attention on hazardous or radiological waste streams, applying pollution-prevention methodology to administrative tasks can also show measurable benefits by addressing typical office environments. In addition to producing quantifiable results, such projects involve a wider cross-section of employees and broaden the support base for the creation of the organization's pollution-prevention culture.

Biography

Brian Thompson is a quality assurance specialist with the Environmental Stewardship Office at Los Alamos National Laboratory, where he oversees the LANL effort to promote pollution prevention through participation in the Green Zia Program. For three years he led Baldrige-based assessments at LANL. He has been a quality examiner for DOE, Quality New Mexico, and the NM Green Zia Program and has led reengineering and process improvement teams. He holds an undergraduate degree from the University of Indianapolis and a Masters Degree from Ball State University.