



# Pollution Prevention News

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Your comments and  
letters are welcome!  
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## Editor's Corner

This month we are delighted to run a guest editorial by Dr. Rodney Lay of Mitre Corporation. I think you will find the design engineer's perspective interesting and worthy of further consideration. We welcome other guest editorials to further the development of pollution prevention ideas.

A quick report on the 2% Pollution Prevention Fund awards for fiscal year 1991. These are one-time awards initiated by the Administra-

tor, intended to stimulate new and innovative pollution prevention initiatives. Over 100 proposals were received, and were evaluated by a review panel made up of representatives from a variety of EPA offices. The panel has made its recommendations to EPA's Deputy Administrator and we believe that some exciting projects will be coming along. We will report detailed information on each of the projects after the President submits his budget to Congress.

### Guest Editorial: A Design Engineer's Perspective

by Dr. Rodney K. Lay, *The Mitre Corporation*

Pollution prevention is one of the few "good news" stories in the environmental arena today. It is good news partly because it makes sense, because it implements what the people already know. Although reducing or eliminating the creation of wastes at the source will never totally replace the command and control strategy, pollution prevention makes good economic, energy, and environmental sense.

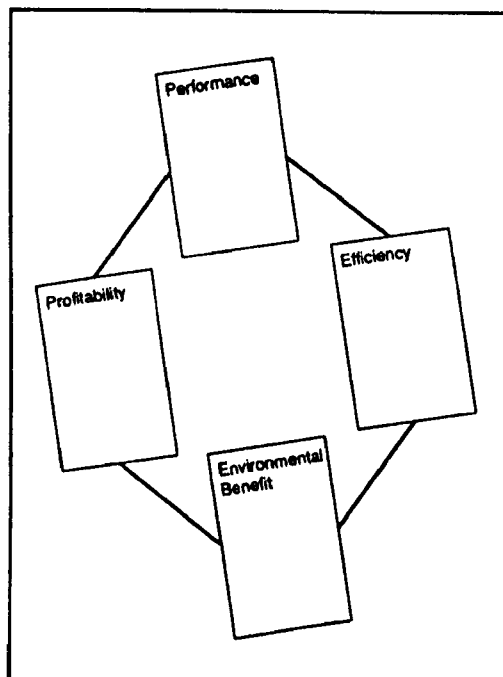
The new prevention "culture" calls for a new perspective from design engineers as well. We must embed the environment into process design thinking. This is hardly a new notion, but it has yet to take effect. **Environmental benefit** must take its place as a fourth process design parameter, with a status equal to the current three parameters: performance, profitability, and efficiency.

Contemplating such a major change to the design status quo is daunting. But the history of design thinking — the codifying of society's desires into technical design parameters — records similar previous advances. This is not the first time that criteria have changed to accommodate broader perspectives. Each new invention plays out the classic cycle. Initially, performance alone is the single significant crite-

rior. If not protected by patent, secrecy or permit, profitability quickly becomes critical. In recent times, the geopolitico-economics of energy sources has raised efficiency considerations to an equal status with performance and profits.

As a fourth major design criterion, environmental benefit will need particular nurturing: a four-legged table is more difficult to build flat

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# People and Places in the News: ILSR, INFORM

Neil Seldman,  
*Institute for Local Self-Reliance*



Co-founder and president of the Institute for Local Self-Reliance (ILSR), a Washington, D.C., based organization promoting community economic development, Neil Seldman views materials recovery and reuse as a means to establish urban self-reliance. Seldman believes these techniques can enable a city and its citizenry to transform waste disposal from an increasingly costly service to a productive element of the local economy.

Founded in 1974 by three community workers in a Washington, D.C. neighborhood, ILSR has three areas of focus. The first is technical assistance in implementing recycling programs. ILSR's economic analyses show waste recycling programs as cheaper and more effective solutions to air pollution and solid waste problems than other treatment methods. But recycling is only the first step, in Seldman's view, if a city is foresighted enough to view its waste disposal expenditures as an economic development investment. Benefits to the local economy begin to multiply when scrap is converted into useful products, providing employment and revenues that stay in the city.

A second focal point for the institute is to help community development groups form joint ventures with companies seeking to set up manufacturing plants with secondary raw materials as their primary feedstock. A former university professor and manufacturer, Seldman uses his business-oriented background to work effectively with business.

Third, ILSR is working on a national materials policy that links proper energy

use, agricultural use, recycling, reduction of pollution, and global warming. If this last undertaking seems overly optimistic, Seldman has an answer. "In many of our endeavors, the technology is very simple, and getting the capital is relatively easy. The hardest challenge is to show Americans, city managers, even governors, that there are new ways of defining our resources and solving problems."

Because "entrenched ways of thinking are our biggest barrier" to change in pollution prevention practices, Seldman continues to search for novel ways to open the minds of Americans. ILSR has become the first environmental consultants to one of the world's most popular television shows. This fall, Sesame Street will introduce environmental issues such as recycling, using Oscar the Grouch and Snuffleupagus as role models for young viewers.

Despite the appeal of Sesame Street's far-flung audience, ILSR still promotes the small community perspective — ideally, "a globe of villages" rather than the global village. "My mother still lives in the house in Brooklyn where I was born," Seldman explains. "ILSR knows what close families mean. 'Local' is an important aspect of our name."

## Selected 1989 ILSR Publications

*Salvaging the Future: Waste-Based Production.* Economics of converting waste materials into usable products. \$100.

*Taking Recycling Seriously: A Primer for Atlantic County, New Jersey.* Evaluates County's plan to burn 75% and recycle 25%; offers other strategies. \$75.

*Beyond 25 Percent: Materials Recovery Comes of Age.* Operating experience of 15 communities. \$40.

*Directory of Waste Utilization Technologies in Europe and the United States.* Summaries from over 80 waste utilization companies. \$50.

*Proven Profits from Pollution Prevention, Volume II.* Case studies. \$20.

For more information, contact ILSR, 2425 18th Street NW, Washington, D.C. 20009. Tel: (202) 232-4108.

Joanna D. Underwood, *INFORM*

Joanna Underwood is founder and president of INFORM, Inc., an environmental research organization dedicated to identifying and reporting on practical actions that governments and businesses can take for the conservation of natural resources.



In one of its most acclaimed publications, *Cutting Chemical Wastes*, INFORM documents how changes in plant processes or products, chemical substitutions, improved housekeeping, and other techniques can reduce wastestreams at plants across the country.

"In 29 plant case studies, we saw initiatives that produced 30, 50, 80, and even 100 percent reductions," Underwood says. For example, a Borden plant in Freemont, California, reported eliminating 93 percent of organic chemicals from its wastestream through a variety of housekeeping changes.

With such tremendous opportunities for plants to cut their wastes, Underwood believes that setting rigid plant-specific reduction standards is not the best approach. "There is so much to be gained by encouraging companies to do all they can," she explains. "How do you quantify a potential for waste reduction? Even similar facilities are so vastly different. From our experience, numerical plant-specific targets overlook opportunities. However, an overall national goal of reducing total hazardous waste by 25 to 50 percent over the next decade seems eminently attainable, just by implementing measures that would save industry money."

INFORM advocates two ways to encourage industry to reduce wastes. The first is

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# Reports from EPA Offices

## OSW: Draft Guidance on Waste Minimization Programs

In response to numerous inquiries on what constitutes a waste minimization program, EPA's Office of Solid Waste (OSW) has identified key elements of a program in a *Federal Register* notice published on June 12, 1989. The guidance is intended to provide direction to large and small quantity generators in fulfilling their manifest certification requirement. Six key elements of a waste minimization program are identified:

(1) **Top management support** which can be demonstrated in a variety of ways, including a written company policy, specific goals for reducing waste stream volume or toxicity, and employee training and rewards;

(2) **Characterization of waste generation** through a waste accounting system;

(3) **Periodic waste minimization assessments**, including a determination of the true costs of wastes;

(4) **A cost allocation system**, whereby department and managers are charged "fully-loaded" waste management costs for the wastes they generate, factoring in liability, compliance, and oversight costs;

(5) **Encouragement of technology transfer**, both within the firm and with

other firms, trade associations, states, universities, and consultants; and

(6) **Program evaluation**, to provide feedback and identify potential areas for improvement in the program.

Comments on the draft guidance were due to EPA by September 11th. According to Jim Lounsbury, Director of OSW's waste minimization staff, this represents "one of many opportunities throughout the RCRA program to encourage implementing waste minimization programs." Once the guidance is published in final form, OSW will prepare a booklet of case studies on the dynamics of implementing such programs in different industrial settings.

## OAQPS Meets with GM on Chemical Management Program

EPA staff from the Office of Air Quality Planning and Standards recently met with representatives of General Motors to hear about an interesting new program that has already cut down on manufacturing costs and pollution. An internal GM review of chemical usage in the over 170 GM domestic plants revealed excessive costs associated with the purchase, inventory, and disposal of almost 200,000 chemical materials in use. In response, GM initiated a new

chemical management program in seven plants, with plans to extend it to 20 facilities within the next 18 months.

Under the old system, GM's multiple suppliers had an economic incentive to maximize their sales volume to GM. Under the new program, GM has hired a chemical management contractor to inventory, supply, and dispose of all chemical requirements at a single plant. The contractor is compensated based on output measures (such as the number of engines cleaned) rather than on input measures (such as the volume of solvents purchased). The program has already resulted in lower chemical usage, lower costs to GM, and waste reductions. EPA is particularly interested in whether this incentive-based approach could be successfully applied to other industries and businesses. For further information, contact John Calcagni at OAQPS, (919) 541-5621.

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and stable than a three-legged stool. Technical, economic, and political interactions will all be affected. There will naturally be inertia working against the necessary changes in design thinking. Nevertheless, environmental benefit is already being applied as a concept. Major industries have pointed the way. Within government we are starting to see examples such as the Department of Defense's TQM program (Total Quality Management) shifting the focus from end-of-the-line quality control to an ongoing awareness of quality and environmental concerns prior to and during the entire design and manufacturing process.

Whether in industry or government, pollution prevention programs must be planned with clearly defined objectives. Progress will accelerate when these objectives are measured in terms of positive environmental benefits, and when the search for opportunities to prevent pollution is conducted at the earliest possible stage, by the design engineers most involved with the activity.

*Dr. Lay is Associate Technical Director at the Mitre Corporation and co-author of a recent workshop report, "Pollution Prevention: Maximizing Opportunities by Creative Policies, Programs, and Advocacy." For a copy of the report, call (703) 883-6514.*

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public disclosure of plant release data (as is already beginning to occur with EPA's Toxic Release Inventory).

The second is economic incentives. If companies are required to audit their processes and determine the costs of lost materials, Underwood believes they will quickly realize how much money can be saved by changing procedures or instituting simple housekeeping measures.

If these types of incentives fail, INFORM can suggest others that might be more powerful. One possibility might be a "total-waste tax," as Underwood explains, "not just to landfills and sewage treatment, but to all wastes leaving the plant." But it may not be necessary at this point to go to such lengths. "The options for major cost-effective change are broad and exciting right now," she notes. "It's worth seeing what informational and economic incentives can produce before taking stronger steps."

## Selected INFORM Publications:

**Cutting Chemical Wastes: What 29 Organic Chemical Plants Are Doing to Reduce Hazardous Wastes.** In-depth case studies. \$47.50

**Promoting Hazardous Waste Reduction: Six Steps States Can Take.** Why hazardous waste reduction should be an aggressively pursued management approach. \$3.50

**Garbage Management in Japan; Leading the Way.** A look at Japan's sophisticated integrated waste management practices. \$15.

**Tracking Toxic Wastes in New Jersey (Ohio) (California).** Guides to federal and state information sources on industrial chemical wastes in these states. \$15 each.

For more information, contact INFORM, Inc., 381 Park Avenue South, New York, NY 10016 (212) 689-4040.

# Upcoming Events in October & November

Title	Sponsor	Date/Location	Contact
1989 Recycling Conference & Exposition	Recycling Office, Westchester County Govt.	Oct. 4-5, 1989 White Plains, NY	Abby Pelton (914) 285-2588
Environmental Hazards Conference/Exposition	Hazmat World, EHMI, Tower Conference Mngmnt.	Oct. 10-12, 1989 Hartford, CT	Bob Myhelic (312) 469-3373
Waste Expo's "Solutions" West	National Solid Waste Management Association	Oct. 10-11, 1989 San Jose, CA	Patti Jo Barber (202) 659-4613
6th Annual Environmental Exposition	Environmental Exposition, Inc.	Oct. 16-18, 1989 Asbury Park, NJ	Linda Siecke (201) 782-0062
HazWaste Expo Chicago '89	Haz. Waste Management Magazine, Transportation Skills Program	Oct. 16-19, 1989 Rosemont, IL	Robert McCarty (215) 683-5098
Using Environmental Auditing to Effectively Manage Risk	Univ. of Wisconsin, Dept. of Engineering Professional Development	Oct. 30-Nov. 1, 1989 Madison, WI	Pat Eagan (608) 263-7429
Enviro Expo '89	Anchor Resources, Inc.	Oct. 31-Nov. 1, 1989 Beaumont, TX	Andy Johnson (504) 291-9996
8th National Recycling Congress	National Recycling Coalition	Oct. 31-Nov. 3, 1989 Charlotte, NC	Brenda Barger (704) 336-2770
Conference on House Bill 592: Planning for Ohio's Solid Waste Management Districts	Ohio Alliance for the Environment	Nov. 1, 1989 Columbus, OH	Irene Probasco (614) 421-7819
2nd Topical Conference on Emerging Technologies in Materials	American Institute of Chemical Engineers	Nov. 6-9, 1989 San Francisco, CA	John Kardos (314) 889-6062
HazMat West '89 Conference & Exposition	HazMat World Magazine	Nov. 7-9, 1989 Long Beach, CA	Brenda O'Neal (312) 469-3373

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