United States
Environmental Protection
Agency

Office of Pollution Prevention
Washington, DC 20460

March 1991

Pollution Prevention News

Inside:

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Pollution Prevention News
U.S. EPA
401 M Street SW (PM-219)
Washington, DC 20460

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Editor's Corner

The American Institute for Pollution Prevention

Joseph T. Ling
Chairperson, AIPP

As a person who has been involved in preventing pollution at its source for two decades and as the Chair of the American Institute for Pollution Prevention (AIPP), I am very pleased to have the opportunity of introducing the AIPP to the readers of *Pollution Prevention News*.

In 1988 EPA's Science Advisory Board recommended that EPA's strategy for the 1990s should focus on the long-term goal of preventing pollution, and should shift from end-of-pipe controls to stopping the generation of pollutants in the first place. To assist EPA in developing and implementing this philosophy, AIPP was founded by EPA in 1989 under a Cooperative Agreement with

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Corporations Get a "Green Light" for Improved Lighting Efficiency

Over 30 corporations have recently signed agreements with EPA committing themselves to upgrading their facilities over the next five years with energy-efficient lighting products. EPA's "Green Lights" program is an aggressive, non-regulatory effort to reach corporations and a wider audience with practical information on new lighting technologies. The program's target is a 10 percent or greater reduction in national electricity demand and an associated 4-7 percent drop in emissions of carbon dioxide, sulfur dioxide, and nitrogen oxides.

Firms signing on as of February 8th include: American Standard, America West Airlines, Amoco, Bechtel, Bell Atlantic, Boeing, Browning Ferris, Inc., The Oliver Carr Company, Citicorp/Citibank, Crestar Bank, Digital Equipment Corporation, General Dynamics, Gerber Products Company, The Gillette Company, Hasbro, IPS Electric Midwest Gas, Johnson and Johnson, Eli Lilly & Co., Lone Star Steel, Maytag, Memorex Corporation, Preston Trucking, 3-M, Union Camp Corporation, Warner-Lambert Company, Wolverine World Wide, and Xerox.

Under a voluntary agreement, each Green Lights Partner has agreed to survey its U.S. facilities, consider a full set of lighting options (including lamps, ballasts, fixtures, controls, and reflectors), and choose options that maximize energy savings while still being profitable and offering comparable lighting quality. If appropriate, retrofitting would be done at 90 percent of the square footage of these facilities. EPA and the participating companies also have agreed to undertake education, training, and publicity efforts for energy-efficient lighting. For more information, contact Jerry Lawson at EPA, 202-245-3791.

News & Notes

NOAA Cautiously Optimistic on Coastal Waters

A recent report from the National Oceanic and Atmospheric Administration (NOAA) concludes that levels of some chemical contaminants in many coastal areas may be decreasing, or at least holding steady. Noticeably low levels were found along the Southeast and Gulf of Mexico coasts.

High levels of contaminants were still found, but principally in coastal areas near major cities, such as Boston, New York, Baltimore, San Diego, Los Angeles, and Seattle. Even so, these levels are not considered toxic to individual marine animals, although the effects of contamination on entire marine animal populations are not known.

NOAA's National Status and Trends program has been sampling close to 300 representative coastal sites since 1984. The program is the first to use a uniform set of techniques to measure coastal and estuarine environmental quality over relatively large space and time scales. Although no sampling was done near major waste outfalls or other known "hot spots," about half of the sampling sites are located in urban estuaries, within 10 miles of centers of populations in excess of 100,000 people.

Samples of mussels, oysters, bottom-feeding fish, and sediments were tested for trace metals, the pesticides DDT and chlordane, PCBs, and polycyclic aromatic hydrocarbons. The sampling results, combined with other available data, show dramatic drops in concentrations of substances (such as DDT, PCBs, and lead) that have been banned or heavily restricted in the last 15 to 20 years.

Copies of the 34-page report, *Coastal Environmental Quality in the United States, 1990* are available from the manager of the program at NOAA, Thomas O'Connor, at 301-443-8655.

U.S. Plan Unveiled at Global Warming Conference

The U.S. has announced an action plan intended to result in emissions of global warming gases in 2000 remaining at or below 1987 levels. According to Michael R. Deland, chairman of the White House Council on Environmental Quality, "We are united in the belief that despite large uncertainties, the potential threat of climate change justifies taking action now."

The announcement was made during a two-week meeting of government officials from over 130 nations under the auspices of the United Nations. This meeting of the Intergovernmental Negotiating Committee on Climate Change involved preliminary discussions over the shape of an international global warming treaty. Additional meetings are to be held in June, September, and December of this year to hammer out specific goals and actions, with a deadline of June 1992 for drafting a treaty.

The U.S. action plan includes a number of specific actions mandated under the new Clean Air Act: the phase-out of chlorofluorocarbons and other ozone-depleters/greenhouse gases in a faster schedule than the amended Montreal Protocol provisions; a permanent ceiling on sulphur dioxide emissions at sharply reduced levels; and reductions in air pollutants that are greenhouse gases or their precursors (such as volatile organic compounds, carbon monoxide, and nitrogen oxides). Other actions include initiating a program to plant a billion trees a year and to make other forest improvements; speeding the adoption of energy efficient technologies and practices; and promoting non-fossil fuel energy sources.

The U.S. plan received mixed reviews at the conference; while applauded for setting forth a proactive plan, the U.S. was criticized for failing to set targets and a schedule for the control of carbon dioxide emissions. Most of Europe, Japan, and Canada have already pledged to stabilize or reduce carbon dioxide emissions early next century; U.S. emissions of CO_2 could still increase by 15 percent under the plan.

Survey Finds Sludge Safe for Fertilizer Use

The National Sewage Sludge Survey conducted by EPA in 1989 has found that most sewage sludges are safe for widespread use as plant fertilizer. The findings, released in November 1990, affirm EPA's support for using quality municipal sludge as a beneficial resource for soil conditioning and fertilizing.

In an analysis of sludge samples from 208 publicly owned treatment works (POTWs), survey results showed lead concentrations up to 60 percent lower than levels found in 1979. Most of the 350 organic components of sludge were not detected in the samples; of 40 organic compounds detected, 10 are synthetic compounds not yet regulated by EPA. A first round of sludge regulations on 28 priority pollutants is due in January 1992. More information on the survey can be obtained from Dr. Alan Rubin, U.S. EPA, 401 M St., SW (WH-585), Washington, D.C. 20460.

Saving Jobs *and* the Environment

A new publication by the Chicago-based Center for Neighborhood Technology entitled *Sustainable Manufacturing* outlines strategies for moving local industries towards operating in a manner that is more sustainable environmentally and economically. The report features a case study of the successful cooperative effort between the Center and the Chicago metal finishing industry. Similar efforts in Cleveland and Minneapolis are reviewed as well. A step-by-step approach to "industrial retention" explains how local groups can target and research their largest employment sectors and marshall community resources to both save jobs and protect the environment. Copies of the report are available for $10 plus $2 postage and handling from The Neighborhood Works, 2125 West North Avenue, Chicago, IL 60647.

1990 Farm Bill Contains Strong Environmental Provisions

Conservation, Wetlands, Water Quality are Concerns; Sustainable Agriculture Gets a Research Boost

Boasting the most environmentally sound agricultural legislation ever adopted in this country, the 1990 Farm Bill was signed into law in November 1990. The new legislation builds on the experiences of the 1985 law, strengthening and refining the conservation programs, reducing crop subsidies, and significantly expanding the resources devoted to research on sustainable agriculture. The provisions of the 1990 Farm Bill are expected to make positive contributions in conserving environmentally sensitive lands, reducing soil erosion, controlling agricultural nonpoint source pollution, and protecting ground water.

The 1990 law sets a goal of enrolling 40 to 45 million acres in the reserve program which takes fragile farmland out of production for 10 years. Currently some 33 million acres are enrolled in the existing Conservation Reserve Program. Land eligible for the new CRP will include cropland that is contributing to water quality degradation; newly created sod waterways and sod strips; and land that poses an environmental threat due to salinity.

According to the Worldwatch Institute, actions by U.S. farmers under the 1985 Farm Bill succeeded in reducing soil erosion by more than one-third since 1985. By offering subsidies for planting grass or trees on erodible land and requiring farmers with erodible lands to develop soil conservation plans, the rate of soil loss was reduced to one billion tons of topsoil, down from 1.6 billion tons per year.

Also part of the program, a new Wetland Reserve Program has been established with a goal of enrolling one million acres including farmed and converted wetlands. Owners would, for example, receive payments in a lump sum if they grant a permanent easement and implement an approved wetland restoration plan. The law gives priority to wetlands that enhance habitat for migratory birds and other wildlife.

Other conservation measures include a stronger trigger for the Swampbuster provisions, an easement program for long-term protection of environmentally sensitive lands, and a voluntary Agricultural Water Quality Protection Plan under which 10 million acres of farmland could be enrolled by 1995. The program is designed to promote the efficient use of crop nutrients and pesticides and ensure safe handling of pesticides and animal wastes. Agricultural producers with approved plans for water quality protection could receive up to $3,500 per year in cost-sharing assistance. The law affirms a policy that water quality protection shall be an important goal of USDA programs and policies.

Sustainable Agriculture

In the last three years, USDA has operated a small but innovative program for farming and farm research that responds to the growing interest in an environmentally benign agriculture. Called LISA (low input sustainable agriculture), the program aims to help farmers use production resources — including equipment, labor and chemicals — more efficiently, reducing the need for chemicals and sustaining natural resources. Over 100 projects have been funded, with the participation of 1,860 farmers, on such topics as:

- using different cover crops to reduce soil erosion and leaching of nutrients into ground water;
- controlling weeds by growing rye or other crops that are naturally toxic to weeds;
- year-round forage management through the use of intensive rotational grazing, to reduce costs and herbicide use; and
- helping farmers grow their own "fertilizer" by using legumes like clover and alfalfa as a source of nitrogen for grains.

The 1990 Farm Bill will significantly expand the sustainable agriculture program over the next five years, authorizing $40 million annually for low-input research, $20 million for integrated management systems, and $20 million for training and information outreach to farmers.

Protected wetlands in Louisiana

No-till planting, field buffer strips, and contour terraces prevent erosion on an Iowa farm.

American Institute for Pollution Prevention

from page 1

the University of Cincinnati.

The purpose of the Institute is to provide a non-adversarial and unique communication bridge between EPA and industry and also to act as a liaison channel between professionals in the field of pollution prevention and those who need to employ pollution prevention techniques.

The members of the Institute are experts, serving voluntarily, who were selected from nominees proposed by 35 to 40 trade associations and professional societies. All nominees were to have a record of accomplishment in pollution prevention, to have a continuing interest in environmental protection and to be or to have been responsible for management, plant or process design/selection or to be highly knowledgeable of industrial operations or other activities for which pollution prevention techniques are applicable.

From the approximately 40 nominations received, some 20 charter members of AIPP were appointed to serve 2-, 3-, or 4-year terms (see box listing organizations represented by members).

The Institute was given essentially carte blanche authority to define its own mission and organization. The formal "mission statement" which Institute members have adopted is: "to generate broad support from private and public sectors and to assist EPA in achieving widespread and expeditious adoption of pollution prevention concepts." The Institute also believes that success in this area will be achieved by primarily relying on information transfer and persuasion, both with respect to why pollution generators should be motivated toward pollution prevention and how, from a technical standpoint, pollution prevention can be accomplished.

Institute members have organized themselves into four Councils: the Economics Council (Dr. Robert B. Pojasek, Chair); the Education Council (Alan E. Rimer, Chair); the Implementation Council (Paula C. McLemore, Chair); and the Technology Council (Dr. Ralph F. May, Chair). A Coordinating Committee provides oversight for the Institute's programs; the Executive Director, Dr. Thomas R. Hauser, is appointed by the University of Cincinnati and manages the day-to-day activities of the Institute.

Each Institute member serves on one of the Councils and each Council has defined its own mission and specific projects (see accompanying box). At present, about 20 projects, all of which should be completed within 1-2 years or less, have been undertaken by the Councils. Information on these projects and each Council's individual mission will be reported by each of the four Council Chairpersons in follow-up articles in *Pollution Prevention News*.

The publication of a national strategy on pollution prevention, the creation of the Office of Pollution Prevention within EPA, the establishment of the AIPP and other related actions clearly indicate EPA's strong commitment to promoting pollution prevention. The enthusiastic participation in AIPP's activities by industrial and professional groups demonstrates strong support from the private sector. I firmly believe that AIPP, with continuing EPA encouragement, will make important contributions to the promotion and implementation of pollution prevention in this country and abroad for years to come.

Joseph T. Ling, retired Vice President for Environmental Affairs of 3M, pioneered 3M's Pollution Prevention Pays program in the early 1970s.

Organizations Represented in AIPP

Aerospace Industries Association of America
Air & Waste Management Association
Aluminum Association
American Academy of Environmental Engineers
American Chemical Society
American Institute of Chemical Engineers
American Institute of Mining, Metallurgical & Petroleum Engineers
American Iron & Steel Institute
American Petroleum Institute
Chemical Manufacturers Association
Department of Defense
Electronic Industries Association
EPA Science Advisory Board
Governmental Refuse Collection and Disposal Association
National Agricultural Chemicals Association
National Association of Metal Finishers
National Research Council
National Roundtable of State Waste Reduction Programs
Society of American Wood Preservers
Society of Women Engineers
Water Pollution Control Federation

Selected AIPP Current Projects

Economics Council:

- Collect and evaluate information on present practices involving the use of economic analysis by industry with respect to adoption of pollution prevention techniques.
- Develop a Practical Guide to Pollution Prevention Economics for use by industry and test the guide in a real-life industrial setting.

Education Council:

- Develop pollution prevention-oriented homework and design problems for use in existing engineering courses.
- Develop pollution prevention-oriented curriculum modules for incorporation into existing executive education courses offered at universities and elsewhere to promote acceptance of pollution prevention concepts by corporate managers.
- Develop media materials for use in educating the general public with respect to the various concepts involved in pollution prevention.

Implementation Council:

- Identify potential incentives for pollution prevention as perceived by industry, trade/professional associations and government agencies.
- Define regulatory and legislative barriers to pollution prevention.

Technology Council:

- Assist EPA in conducting selected pollution prevention demonstrations for small businesses.
- Assist EPA in a project to demonstrate, on a community-wide basis, how to remove dry batteries from the solid waste stream and to determine the effect of this action on the emissions and ash residues of the municipal waste combustor.
- Assist EPA in a demonstration project for reducing the amounts of pesticides and fertilizers going to ground and surface waters through proper management of agricultural products by the users.
- Assist EPA and DOD in a cooperative project demonstrating the beneficial effects of pollution practices in a "model community."

In the States

Iowa's IWRC "Shows Small Businesses How"

Kimberly Gunderson
Iowa Waste Reduction Center

The Iowa Waste Reduction Center (IWRC) at the University of Northern Iowa was created by the Iowa Legislature as part of the 1987 Groundwater Protection Act. It was given the mission of assisting small Iowa businesses with minimizing waste, understanding and complying with environmental regulations, and protecting employees and communities from environmental hazards. The Center opened its doors in January 1988 and has been providing free, confidential technical assistance ever since.

The main premise for the Center's work is that small businesses are willing and able to reduce their waste and protect the environment if someone will just show them how. And that is what the IWRC has been doing. One way has been as a resource for businesses to ask questions about regulations and waste reduction. In the last three years, over 1500 businesses have used the IWRC to answer questions about new and emerging waste reduction techniques or understanding state and federal regulations. But the most effective service performed by IWRC is the on-site review.

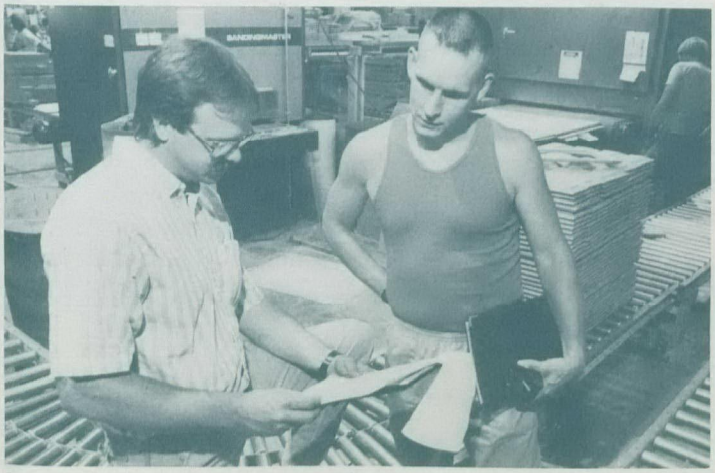
On-Site Reviews

To date, IWRC has performed over 350 on-site reviews throughout Iowa, consisting of a comprehensive facility tour and assessment report, with a six-month follow-up call to determine if the business is in need of further assistance or was able to successfully implement the recommendations. Seventy percent of the businesses to date have reported that they were able to successfully implement the waste reduction recommendations made by IWRC, resulting in 10,175 tons of waste being reduced.

IWRC also provides a variety of educational activities to keep businesses up to date on the changing regulations and waste management options. Last year, IWRC made 49 presentations reaching over 2000 individuals, and conducted ten hazardous waste workshops reaching 600 business owners. The IWRC newsletter, *The Closed Loop*, is published quarterly to pass along waste reduction tips and regulatory reviews. Recently, two manuals, *Cutting Fluid Management in Small machine Shop Operations* and *Waste Management and Reduction for Automobile Dealerships*, have been developed by the Center and are available to interested organizations.

One of the most exciting IWRC projects is the By-Product and Waste Search Service, a pilot waste exchange being coordinated with Iowa's Regional Economic Development Centers. Staff have identified more than 38,000 tons of potentially recyclable waste materials in the pilot districts. Materials — ranging from paper and sawdust to eggshells and mill scale — are matched with the raw material needs of other companies through an active search. For example, a company generating about three tons of sawdust annually has been matched with an animal bedding company, and a company producing 52 tons of arc welding slag was matched with a company producing vaults. In addition to cost savings, companies are getting positioned for compliance with Iowa's law, which mandates a 25 percent reduction in materials entering the state's landfills by July 1994 and a 50 percent reduction by July 2000.

Staff members at IWRC are happy to talk about their program and ongoing projects. You can reach IWRC at 319-273-2079.



Jim Olson, IWRC, conducting on-site review at an Iowa furniture manufacturing plant

Oil Filter Recycling Project

Most states, including Iowa, ban the dumping of waste oil in landfills, but have not yet regulated used automobile oil filters. When the filters are landfilled, the oil can leach out into ground and surface water. Although current EPA regulations require service station operators to drain filters before discarding them, the IWRC estimates that the 6.6 million filters ending up in Iowa's landfills each year still contain nearly 400,000 gallons of contaminated oil. Contaminants in the oil may include lead, toxic metals, and benzene.

In a recent pilot project, IWRC collected oil filters, crushed them in a specially-designed hydraulic press to squeeze out excess oil, and sent the waste oil and metal filter frames to appropriate recycling companies. Up to 29 ounces of waste oil can be pressed out of a large used filter. Recycling used automobile oil filters could save some Iowa businesses sizable costs if EPA regulates oil filters as hazardous waste, which would effectively ban the filters from solid waste landfills.

In the States

Forging a New Partnership in Georgia

Carol C. Foley, Director
Georgia Tech Pollution Prevention Project
Georgia Tech Research Institute

Pollution prevention is fast becoming a priority in Georgia. In order to reduce the risk of toxic pollutants, Georgia's Environmental Protection Division (EPD), Georgia industry, and the Environmental Science and Technology Laboratory at the Georgia Tech Research Institute have forged a new partnership. Together we hope to create an atmosphere where voluntary toxics reductions and mandatory facility planning will achieve real reductions in the amount of toxic chemicals generated and released into the environment.

Through this program industry can get expert technical advice and at the same time give feedback to government regulators in a non-adversarial setting. Eleven companies participated in the program this past year. Although most of the participants already had been thinking in terms of pollution prevention, being in the program seemed to spur them to translate their ideas into action.

To identify the first round of candidates for the program, EPD used its existing databases along with data reported by companies in the Toxic Release Inventory and hazardous waste biennial reports. Criteria for targeting companies included: impact on the environment; TRI ranking; toxicity of emissions; location; type and size of industry; age of facility; corporate support; availability of money to invest in pollution prevention; and regulatory compliance history. Companies which appeared on more than one list or which had a significant problem with releases to a particular environmental medium were selected; most candidates were fairly large companies with high visibility in their communities. We consider such companies ideal if they become "champions" for pollution prevention.

The companies selected were sent a formal letter of invitation from the head of EPD to participate in the program on a voluntary basis. In order to help the companies decide whether or not to come on board, meetings were held with each company; in many cases, these meetings marked the first time that a company met with all of its EPD compliance officers at one time.

Georgia is unique in that the same person within each branch of EPD is responsible for writing a company's permit, performing the compliance inspections, and enforcing the regulations. This arrangement allows for a long-term relationship between the company and its EPD officers. The compliance officers were included in the meetings because they understand the company's processes and can determine whether or not a pollution prevention option will shift wastes to other media or will be unallowable under current permit conditions. The companies meanwhile had an opportunity to voice their concerns about voluntary and mandatory requirements for pollution prevention in candid, face-to-face discussions with EPD.

Retirees and graduate students in the Pollution Prevention Mentor Program attending a training course.

As an example of a success story, Atlantic Steel worked with a team from Georgia Tech. The team improved the company's procedures for cleaning and storing empty lubricant drums, allowing them to recycle more drums. At the program's suggestion, the company is also trying to purchase more materials in returnable bulk containers instead of drums. Waste reduction and product substitution are being tried at the Delta Airlines facility in Atlanta as well.

The program will work with 10 more companies this year, and Georgia Tech has inaugurated a mentor program where pollution prevention assessments will be done by retired engineers paired with graduate students.

For more information, contact the Georgia Pollution Prevention Program at 404-894-8044.

Several newsletters are available free from EPA:

- U.S. EPA Region 8 is publishing a monthly *Waste Watchers Newsletter* with information about regional waste minimization projects at the federal and state levels. To be added to the mailing list, please write: Marie B. Zanowick, U.S. EPA Region VIII, Hazardous Waste Management Division, 999 18th Street, Denver, CO 90202.
- EPA's Office of Solid Waste has released the first issue of a new newsletter for Native Americans to promote information exchange on hazardous and solid waste issues. To subscribe, write the Office of Solid Waste (OS-340), U.S. EPA, 401 M St. SW, Washington, DC 20460.
- EPA's quarterly newsletter, *Reusable News*, published by the Office of Solid Waste, Municipal and Industrial Solid Waste Division, reports on efforts of EPA and others to safely and effectively manage the nation's garbage. Write OSW (OS-305), U.S. EPA, 401 M St. SW, Washington, DC 20460.

Letters

Sales of Surplus Hazardous Materials

Our organization, the Defense Reutilization and Marketing Service (DRMS), is part of the Defense Logistics Agency. We are responsible for processing surplus personal property for the U.S. military departments and defense agencies around the world.

Each year we offer a wide variety of surplus property for sale to the general public. About five percent of the property consists of chemical items such as paints, solvents, sealers, lubricants, adhesives, photographic developers, and various other kinds of hazardous material (HM).

We returned over $2 million to the U.S. Treasury from our sales of hazardous material last fiscal year. Our primary interest, however, is ensuring that our buyers are environmentally responsible. Our buyers must convince us that they will properly handle, store, and use the property. They must tell us what they intend to do with it and let us visit them before and after the sale to check on them. Last year we visited some 200 potential HM buyers. By and large we were pleased with what we saw. When we weren't, there was no sale. In a few cases, we reported our findings to regulatory agencies.

We offer HM for sale only if the container is in good condition and hasn't been opened and only if a Material Safety Data Sheet is available. We also sell a limited amount of hazardous waste for recycling (e.g., contaminated oils and spent solvents) to companies that hold EPA permits/licenses.

In November 1989 we stopped all local sales of HM by our 200+ field offices. We then consolidated HM sales in three regional offices — located in Germany, Tennessee, and Hawaii — to ensure consistency and control. We believe that our new consolidated sales approach and centralized control will prevent today's HM sales from becoming tomorrow's pollution problems.

If you are interested in our program, or have any questions, please contact Mr. Newell Masters, 901-775-4974 in Memphis, TN.

— Raymond M. Agnor, Jr.
Colonel, USAF Commander

Attention Readers!

As we begin our third year of publication of *Pollution Prevention News*, we'd like to hear from you. How can we make this newsletter serve you better? Please take a few moments to fill in and mail this form.

1. What types of subjects would you like to see covered in PPN? (Check as many as you like; number them if you want to indicate priorities.)

__ Energy Efficiency
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__ R&D News
__ Consumer Products
__ Case Studies
__ Transportation
__ Industrial Technologies
__ "Think Pieces"
__ Solid Waste
__ Other: _____
__ EPA Activities
__ State Programs
__ International
__ Legislation

2. What special features are useful to you in your work? (U-useful; N-not useful)

__ Calendar of Events
__ EPA Editorials
__ Technical case studies
__ Other: _____
__ Reports from EPA Offices

3. Do you have information or case studies that you would like to see featured in PPN?

__ Yes, enclosed are some materials
__ Yes, give me a call to discuss. (Telephone: _____ - _____ - _____)
__ Not at this time.

4. To correct your mailing address or remove your name from the mailing list, please mark up the label on the back of this form. (If nothing is marked, you will continue to receive PPN.)

5. Please take this opportunity to offer other comments and suggestions. _____

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Calendar

Title	Sponsor	Date/Location	Contact
Annual Legislative/ Regulatory Meeting	National Assn. of Solvent Recyclers	March 20-21 Washington, DC	Kim Levy 202-463-6956
Environmental Technology Exposition	Pollution Engineering Magazine	April 8-11 Chicago, IL	Jill Vanderlin 708-390-2427
Waste Expo '91	National Solid Waste Management Assn.	April 8-12 Washington, DC	NSWMA 202-659-4613
RCRA Reauthorization 1991	Hazardous Waste Treatment Council (HWTC)	April 11 Washington, DC	Jackie Scott 202-783-0870
2nd Annual Recycling Conf.	Indiana Recycling Coalition	April 19 Indianapolis, IN	Janet Neltner 317-283-6226
21st Annual BioCycle National Conference	BioCycle Magazine	May 20-22 Philadelphia, PA	Coordinator 215-967-4135
Environment in the 1990's: A Global Concern	Society for the Advancement of Material & Process Eng.	May 21-23 San Diego, CA	SAMPE Fax: 818-332-8751
6th Intl. Conference on Used Oil Recovery & Reuse	Association of Petroleum Re-Refiners	May 29-31 San Francisco, CA	Mary K. Olson 716-855-2757

Waste Stream Minimization/Utilization Technology Fair
A technology fair aimed at introducing innovative concepts for reducing or using waste streams, will feature James Burke ("After the Warming"). To be held April 25-26, 1991, at Tysons Corner, Virginia. Co-sponsored by the Innovative Concepts Program of the U.S. Department of Energy, EPA's Environmental Management Division, the U.S. Bureau of Mines, and EPA. Contact: Raymond Watts, K6-54, Pacific Northwest Laboratory, P.O. Box 999, Richland, WA 99352.

Global Pollution Prevention '91
Conference and exhibition focusing on successful approaches to pollution prevention and waste minimization. April 3-5, 1991 in Washington, D.C. Sponsored by EPA, Chemical Manufacturers Association, U.S. Dept. of Energy, National Roundtable of State Pollution Prevention Programs, World Wildlife Fund and The Conservation Foundation. Contact Herb Quinn at 703-761-6160.

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