



Pollution Prevention News

Inside:

- 2 Reports from
EPA Offices
- 3 Interview:
Mark Greenwood
- 4 Healthy Building
- 5 Corporate News
- 6 Case Studies
- 7 Small Business
Grants Awarded
- 8 Calendar

To be added to our mailing
list, please write:

Pollution Prevention News
U.S. EPA
401 M Street SW (PM-222B)
Washington, DC 20460

Editorial Staff:
Priscilla Flattery, *Editor*
Gilah Langner
Judith K. Rosenthal
Teresa Opheim

Editor's Corner

Moving Ahead with Prevention

Linda Fisher
Assistant Administrator,
Office of Prevention, Pesticides, and
Toxic Substances

Pollution prevention has changed people's focus from one of simple compliance with environmental laws to one of environmental stewardship. Government, industry, and the various public and private organizations must work together if the pollution prevention philosophy is to work at all.

The time has come for a devoted cross-media, cross-sector approach to prevention activities. Here at EPA, we have made some significant changes within the Agency to

recognize the importance of pollution prevention.

The Pollution Prevention Division has moved to join the Office of Toxic Substances in a new Office of Pollution Prevention and Toxics. A senior Policy Council has been established for the Agency. The council is chaired by the Deputy Administrator and supported by a Pollution Prevention Executive Committee. In addition, a small Pollution Prevention Policy Staff has been designated to work on prevention policy out of the Administrator's office. These moves are designed to ensure that pollution prevention becomes the byword of our activities, and receives the attention it deserves, at all levels of EPA.

CFC Phase-Out Accelerated to 1995

The United States will phase out the production of chlorofluorocarbons (CFCs), halons, carbon tetrachloride, and methyl chloroform by December 31, 1995 rather than the deadline of 2000 agreed to in the international treaty known as the Montreal Protocol. The move comes in the wake of new NASA studies showing that ozone depletion may be progressing more quickly than expected over the Northern Hemisphere.

Measurements taken in January in the stratosphere over eastern Canada and northern New England as well as in northern latitudes of Europe and Asia recorded levels of the ozone-destroying CFC byproduct chlorine monoxide (ClO) comparable to or higher than levels observed within the Antarctic ozone hole. Whether an Arctic ozone hole develops will depend on

how long elevated ClO levels persist and on weather conditions. The ozone layer in the stratosphere screens harmful ultraviolet radiation which can cause skin cancer, cataracts, and damage to the immune system.

Because of the impending phase-out of CFCs, substitutes and alternatives for many major CFC uses have been under development for some time. Industry has already cut CFC output by 42 percent since 1986. President Bush has also called for a reexamination of the schedule for phasing out ozone-depleting CFC substitutes and will consider recent evidence suggesting the need to restrict methyl bromide. That schedule and other matters are expected to be taken up in April by an international workgroup prior to a full meeting of the Montreal Protocol signatories in November.

Reports from EPA Offices

33/50 Program Making Strides in the Regions

More and more companies are joining EPA's 33/50 program, and EPA's regional offices have been instrumental in encouraging industry's participation in the voluntary initiative.

The 33/50 program challenges industry to reduce releases and off-site transfers of 17 toxic chemicals by 33 percent by

EPA's regional offices have taken a variety of creative approaches to industry outreach.

the end of this year and 50 percent by the end of 1995, compared to 1988 levels. EPA has sent letters inviting participation from the 6,000 largest dischargers of the targeted toxics. As of December 1991, close to 500 compa-

nies had committed themselves to an average reduction of 50 percent by 1995, for a total reduction commitment of 290 million pounds. Many more companies have agreed to participate in the program but have yet to announce the amount of their promised reductions. The overall national goal is to reduce releases of these chemicals by at least 700 million pounds by 1995, with an emphasis on source reduction to meet these goals.

EPA's regional offices have been asked to help with outreach to industry for the 33/50 program, and have taken a variety of creative approaches. The regions share their ideas and resources in regular teleconferences coordinated by EPA headquarters. In Region 7 (IA, KS, MO, and NE), EPA staff have joined together with state and local officials to approach industry by community rather than by type of business. It was hoped that neighboring companies would want to work together to improve their local environment.

"We're very proud of this, because it's been very successful" in drawing participation, says Region 7's Carl Walter. In Wichita, KS, the first locale approached by Region 7, local officials helped 26 companies set up a 33/50 steering committee that has advised its counterparts in other Region 7 cities and is applying for a public/private partnership grant.

Region 7 also is involved in developing computer programs that compare toxicity data for different zip code areas. The program developed in Region 7 is also being used by Region 3 to target its 33/50 outreach to selected geographic areas.

Region 6 (AR, LA, NM, OK, and TX) now offers a toll-free number (800-354-3350) for a 33/50 technical assistance program sponsored by the region's Dallas office and the Environmental Institute for Technology Transfer at the University of Texas at Arlington. This "Techline" is intended to give small and medium-size firms access to experts at UT Arlington and a consortium of eight universities in the region, as well as access to EPA and other government databases and information services.

Region 1 (CT, MA, ME, NH, RI, and VT) has been especially active in its outreach and follow-up efforts. The Regional Administrator, Deputy Administrator, and staff

have made presentations at numerous industry meetings throughout New England.

The regions are finding that not all companies need to be pursued aggressively to participate in 33/50 efforts. The Adolph Coors Company took the initiative to approach Region 8 (CO, MT, ND, SD, UT, and WY) to set up a meeting about the program. As a result, Coors is now conducting an air toxics inventory at all its facilities to determine the feasibility of participation in the program.

For more information: contact the TSCA Hotline at 202-554-1404.

High-Level Prevention Policy Council Set Up

EPA has established an Agency-wide Pollution Prevention Policy Council to provide the Administrator with advice on setting priorities for pollution prevention and ensuring adequate resource commitments. The Council is chaired by the Deputy Administrator Hank Habicht and comprised of the Agency's Assistant Administrators and the Regional, or Deputy Regional, Administrators for Regions I, V, VI, and X. An Executive Committee chaired by Mark Greenwood, Director of the Office of Pollution Prevention and Toxics, screens issues and prepares options for review by the Policy Council.

In December, the Council identified about 30 upcoming rule-makings as "targets of opportunity" for integrating prevention approaches into the Agency's regulatory framework. Among the approaches that may be considered during rule-making are basing standards on prevention technologies, incentives, negotiated or voluntary agreements, technical assistance, and information exchange.

The targeted rules fall into the following industrial categories:

- ◆ Pharmaceuticals production
- ◆ Pulp and paper production
- ◆ Rubber chemicals production
- ◆ Printing/publishing (coating)
- ◆ Paper coating
- ◆ Plywood/particleboard manufacturing
- ◆ Paints, coatings, and adhesives manufacturing
- ◆ Paint stripper users
- ◆ Integrated iron and steel manufacturing
- ◆ Acrylic fibers production
- ◆ Styrene butadiene rubber and latex production
- ◆ Polystyrene production
- ◆ Pesticide manufacturing/formulating
- ◆ Degreasing operations
- ◆ Reinforced plastic composite production
- ◆ Machinery manufacturing and rebuilding

For more information, contact Julie Shannon at 202-260-2736 or Lynn Vendinello at 202-260-8612.

Interview

Mark Greenwood, Director Office of Pollution Prevention and Toxics

In December 1991, the Pollution Prevention Division at EPA moved within the Agency to a new home in the Office of Toxic Substances, now called the Office of Pollution Prevention and Toxics. PPN asked Mark Greenwood, Director of the new Office, to share some of his thoughts and goals for pollution prevention at EPA.

How do you see pollution prevention and EPA's toxic substances programs fitting together within the Agency?

There is a natural synergy here, because both programs are inherently multi-media and multi-disciplinary. Also, the orientation of toxics is to approach environmental problems from the front end — to look at the ways in which chemicals are used — which is very compatible with the pollution prevention hierarchy.

EPA has said that it will make greater use of the Toxic Substances Control Act (TSCA) and especially section 6, in seeking to prevent pollution. What effect will the recent overturning of the asbestos ban have on the Agency's plans in this area? Will you be backing off section 6 regulation?

No, absolutely not. But clearly, the decision is causing us to stand back and re-evaluate; it was a significant decision on what was our biggest attempt to use the section 6(a) authority. It's not clear that asbestos is a model for what we'll be trying to do in the future, because few other chemicals represent such pervasive problems as asbestos.

The issue for us for the future is whether we will have to do a lot more analysis to get a regulation out, and how much time that will add to the process. I don't think we really know yet.

The most profound effect of the decision may be the perception by the public or industry that we don't have the authority to act under Section 6. After all, the authorities we have are really part of the incentive structure for

getting people to move in the right direction. I don't think we'll be changing our mission or the way we analyze chemicals, but we may have to be more creative in the tools we use to try to influence behavior.

What is most exciting to you about the 33/50 Program?

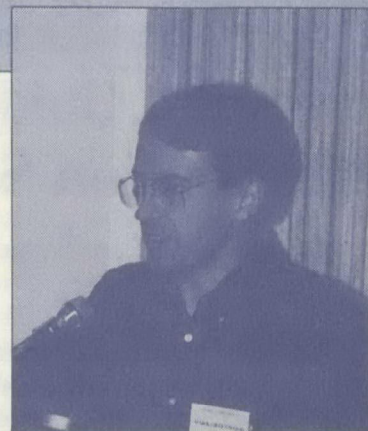
The exciting part is seeing the institutional change that accompanies the technological change. We're seeing companies build 33/50 goals into the corporate bonus structure. How many EPA programs get reflected in corporate bonus programs?!

It looks like 33/50 is going to be very successful. We are getting a high number of commitments from mid-size companies as well as large companies. Last June when we got our first round of commitments from 230 mostly large companies, we thought that was going to be the entire universe. However, we have seen a lot of mid-size companies stepping forward and deciding that it's part of their corporate culture to make voluntary commitments to the government.

What is Design for the Environment?

This is a term we've used to refer to several projects. The idea is to get companies, at the time they are designing products, systems, processes, to think about environmental implications. Long-range, we've funded the National Pollution Prevention Center effort at the University of Michigan to develop university curricula in pollution prevention for business, engineering and natural resources schools. We're also looking at funding a research effort to study the way people design chemicals and to build environmental implications in at the beginning.

In the short-term, we're looking at specific industrial processes, and seeing if we can work with industry cooperatively to develop safer substitute chemicals and processes. Right now we



have a pilot where we're trying to work with the printing industry. It's a different way of orienting EPA — in the past, the toxics program was very much oriented towards the people who manufacture chemicals. Yet there are a large number of people out there who use chemicals, and they aren't particularly interested in using toxic chemicals. We want to help them make better choices.

What's ahead for TRI?

It's going to take years to sort out all the issues associated with the Pollution Prevention Act. For example, we certainly will have to start getting clearer about what is emissions data and what is in-plant data. Sometimes we give the impression that all the data that's in the TRI program is synonymous with emissions, yet we know that not all of it is going into the environment.

Beyond that, we're seeing the so-called Right to Know More campaign which may turn into legislation. My sense is that we may also be moving towards materials accounting but that is several years away.

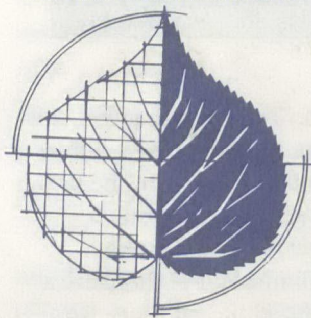
How well is pollution prevention succeeding within EPA itself?

Pollution prevention faces some of the same problems as TQM, total quality management. People get the basic concept but it's not very meaningful to them until they've worked with it themselves. One of our goals is to get it working in as many programs as possible and to have some good working models. I think if they've had some experiences with prevention, they'll be more likely to try it again.

AIA Issues Environmental Resource Guide Subscription Service

Architects Urged to Stop Specifying Refrigerants with CFCs

The American Institute of Architects (AIA) has published the first installment in its Environmental Resource Guide Subscription service. The ERG Subscription is intended to disseminate environmental information that will help architects, engineers, and others in the building industry implement environmentally sensitive design. The January 1992 issue features materials analyses of aluminum and particleboard, as well as a



discussion of background material on the guide, reference listings, and special reports.

Among the recommendations in the first installment of the ERG Subscription are five action items (see box), including a recommendation that architects immediately stop specifying refrigerants with ozone-destroying CFCs in their projects. Randy Croxton, member of the AIA Board of Directors, noted that gas and steam absorption systems using lithium bromide are available for refrigeration, as well as for a growing number of heating and air-conditioning applications.

The subscriptions will be published quarterly, with topics updated as new information becomes available. Upcoming issues in 1992 will cover energy topics (April), building ecology (July), and tropical rainforests (October).

For information on ordering the ERG Subscription service, contact AIA/ERG Project, 1735 New York Ave. NW, Washington, DC 20006. Tel: 202-626-7331 or 800-365-ARCH.

Advice on Healthy Building

Architects and builders becoming more aware of the need to make pollution prevention an inherent part of their work might turn for inspiration to *Healthy Building for a Better Earth*, a new book that features essays and practical advice from their colleagues at the forefront of environmentally sensitive construction.

The book presents the proceedings of the First National Conference on Environmental Sensitivity in Construction, held in May 1990 and organized by Tennessee environmentalists Charles A. Howell III and James Summerville.

The book urges planners to consider the life-cycle cost of choices in building, not just the up-front cost.

Healthy Building for a Better Earth is available for \$9.95 (including shipping) from Trust for the Future, 2704 - 12th Avenue South, Nashville, TN 37204.

Five Actions in Support of the Environment

The following five actions were approved by the AIA Board of Directors last year as being immediately applicable to the practice of every architect:

1. Maximize your clients' participation in all utility-sponsored rebate/incentive programs.
2. Immediately stop specifying any cooling systems that contain a refrigerant with CFCs.
3. Provide leadership to the building team through your active support of total energy planning and life cycle as an essential methodology.
4. Endeavor to specify woods you know to be the product of "sustainable forests," those that are in a continuing cycle of growth, management, and harvest.
5. Meet or exceed ASHRAE '90 Standards for outside air in all projects you undertake (approximately 20 cfm per person).

Suggestions for Architects

■ Aluminum

Recycle, Recycle, Recycle!

- Specify aluminum products fully or partially made from recycled scrap (many alloys cannot be made from 100 percent recycled scrap).
- Consider designs that will facilitate recycling of aluminum later. Avoid using mixed-material assemblies.
- Consider less energy-consuming alternative materials in applications where the advantageous characteristics of aluminum are not needed.

■ Particleboard

- Specify low-emitting UF bonded particleboard (ANSI A208.1-89) where practical.
- If large amounts of unfinished particleboard are to be used, such as floor underlayment, consider sealing or encapsulating UF particleboard or using phenol formaldehyde bonded particleboard.
- In areas that will regularly experience high temperatures, humidity, or moisture, such as in bathrooms or over below-grade concrete slabs, avoid using UF particleboard.
- Consider all potential sources of formaldehyde emissions, including cabinetry and furniture.

Source: AIA Environmental Resource Guide
Materials analysis sections of the ERG Subscription are sponsored by EPA and include analyses of environmental impacts, natural resource depletion, and energy consumption.

Corporate News

Manufacturing Consortium Pools Resources to Solve Pollution Problems

In an effort to increase global competitiveness, a group of corporations and the National Center for Manufacturing Sciences are pooling resources to improve the environmental performance of their manufacturing operations.

Launched in April 1991, the Environmentally Conscious Manufacturing Strategic Initiative has 121 members, including such companies as General Motors, Ford, AT&T, Digital Equipment, Texas Instruments, Rockwell International, Baxter and United Technologies. Each member company pays dues from \$2000 up to \$250,000 a year, based on sales, and then contributes money, expertise, materials and technology toward specific projects.

The initiative has defined and set budgets for a number of goals, including efforts to reduce lead use in manufacturing, remediate industrial wastes and find substitutes for harmful manufacturing solvents. According to Donald J. Walukas,

director of the program, the group also is interested in life-cycle design for environmental compatibility, which includes "the design considerations for disassembly, recycling and reuse." "For the longest time, the mindset was, 'let's just meet the regulations,'" Walukas says. "Now companies are saying that we have to do more than the regulations call for."

A recent material compatibility project shows the initiative's potential for success. According to Walukas, Texas Instruments and United Technologies had independent plans to test some CFC substitutes. Through the Environmentally Conscious program, they agreed to do the testing together, and AT&T, General Motors and Ford decided to join in. The five companies have set a testing protocol and have divided up the work for the project; for example, one company will supply all of the materials and another company will do all the testing of a solvent. According to Walukas, the project's first phase will cost the five companies \$750,000, a charge each company would have borne in full if it had gone ahead with the testing on its own.

For more information, contact the Environmentally Conscious Manufacturing Center for Manufacturing Sciences at 900 Victors Way, Ann Arbor, MI 48108-1779, Tel: 313-995-0300.

Corporations Offer Multitude of Green Products and Services

Corporations are flooding the marketplace with new environmentally friendly products and services. Companies are using a combination of toxic use reduction, recovery, and re-use to appeal to a more environmentally conscious public while trying to beat the competition. Recent corporate environmental efforts include:

- **Home Depot**, the nation's largest home center retailer, is discontinuing the sale of lead solder from the plumbing departments of its 162 stores in an effort to safeguard drinking water. Home Depot's decision was prompted by EPA's Hardware Store Education Initiative, a public information effort that promotes lead reduction in hardware supplies as part of the Agency's strategy to reduce nationwide exposures to lead.

- **Frito-Lay**, the second largest producer of industrial potato starch in the United States, collects the starch from its sliced potatoes as they are washed, dries the starch and then sells it to industrial manufacturers. The company recovers almost 20 million pounds of starch annually from the process and has reduced its discharges to municipal wastewater treatment plants by 35 percent. Frito-Lay also collects potato and corn solids, such as potato peelings and broken or cracked corn



Starch recovered from Frito-Lay's manufacturing process.

kernels, from the process wastewater stream. Annually, close to 20 million pounds of these wet solids are sold to U.S. livestock and dairy farms for use as a feed supplement.

- **Louisiana-Pacific's** panel plants in Oroville, CA are using up to one ton a day of telephone books collected in the Sacramento area to mix with wood shavings, sawdust and chips to make hardboard and medium-density fiberboard. Louisiana-Pacific also has developed a new wallboard, called FiberBond™, of which about 30 percent of each panel is made with recycled newspaper collected from East Coast cities.

- **Valvoline** expects to collect nearly 100 million gallons of used motor oil during the next four years through a newly formed recovery and reuse subsidiary, Ecogard™, and its collection division, First Recovery. "The First Recovery service means that Valvoline has created a closed system, a cradle-to-grave approach to motor oil sales and recovery," according to Carl Frey, a senior vice president for Valvoline.

- In October 1991, **Apple Computer** began shipping products in brown (kraft) cardboard boxes, thereby eliminating the bleaching agents used in manufacturing Apple's traditional white boxes. Shifting from bleached to unbleached packaging "will mean that Apple's packaging will release fewer toxins—toxic organochlorine compounds, formed in bleaching, such as dioxin, furans and chloroform—into the environment," according to Scientific Certification Systems, an independent environmental consulting firm.

Case Studies from the Pollution Prevention Research Branch

Manufacturing Heating, Ventilating, and Air Conditioning Units

A plant manufacturing approximately 700,000 commercial and residential heating, ventilating, and air conditioning units was evaluated as part of EPA's Waste Minimization Opportunity Assessments Program. The plant produces fan coil units, electric heat components, air treatment units, accessory components such as air volume control units, and air terminal units.

Waste Generation & Management Activities

Although manufacturing the fan coil and air terminal units is a major source of waste, the paint line generates the greatest amount of waste. All wastes from the manufacturing processes are considered hazardous; annual waste generation is described below.

Manufacturing of the fan coil units generates several wastes. As aluminum sheet is drawn through the fin press to form fins for the heat exchanger compo-

nent of the fan coil unit, 37,500 gal of lubricating oil from the fin press evaporates. Eventually, after several intermediate processing steps, the fin and coil components are assembled into fan coil units. The assembly is performed with adhesives. 107 barrels of solvent-based adhesive on paper (overspray) and defectively glued insulation board are disposed of at a cost of \$23,250. 43 barrels of water-based adhesive contaminated material (paper from overspray and insulation board) are disposed of as municipal (non-hazardous) waste at a cost of \$2,365. Adhesive application requires the use of a carrier. This generates 345 gallons of carrier waste lost due to evaporation.

Production of the air terminal units generates waste as well. Final assembly of the parts to form the air terminal units results in the generation of 64 bars of ethylene-vinyl acetate adhesive waste (paper and insulation board) disposed of at a cost of \$13,905. Paint application generates additional waste. The overspray is collected in water and the water is separated and recycled. The remaining 6,875 gal of paint sludge are disposed of as hazardous at a cost of \$72,375.

Waste Minimization Opportunities

Three different opportunities were suggested for minimizing the adhesive overspray, the defectively glued insulation board, and the adhesive carrier vapor problems:

- Attach insulation to sheet metal parts with screws, not adhesives. Waste would be reduced 100%, and the savings would be \$58,350. The payback period for the \$6,400 implementation cost would be 0.1 year.
- Replace all solvent-based adhesives with water-based adhesives. (An overhead conveyor would deliver dry, glued parts to the next operation.) The amount of waste would be

the same but would be nonhazardous; all vapors would be eliminated; and the net savings would be \$25,690. The payback period for the \$31,740 implementation cost would be 1.2 years.

- Spot glue 10% of the surface area with quick-drying solvent-based glue and 90% with slow-drying water-based adhesive. The vapor would be reduced 90%; the waste would be nonhazardous; and the annual savings would be \$23,120. The payback period for the \$5,100 implementation cost would be 0.2 years.

To minimize paint sludge, the exhaust air flow rate from the paint booth could be cut back to reduce the waste 25% at an annual savings of \$44,914. The payback period for the \$2,100 implementation cost would be 0.1 years. By improving painting techniques (through retraining), overspray could be reduced 5% and \$8,810 could be saved annually. The payback period for the \$3,500 implementation cost would be 0.4 years.

To minimize the lubricating oil vapor from the fin press, a recirculating air-oil condensing system could be installed to reclaim the evaporating oil. Waste would be reduced 50%, and \$56,250 would be saved. The payback period for the \$7,400 implementation cost would be 0.1 years.

This assessment was performed by the University of Tennessee Waste Minimization Assessment Center. An environmental research brief entitled "Waste Minimization Assessment for a Manufacturer of Heating, Ventilating, and Air Conditioning Equipment" (Doc # EPA/600/M-91/019) is available from the U.S. EPA Center for Environmental Research Information, Cincinnati, OH 45268. The EPA contact, Emma Lou George, can be reached at U.S. EPA, Risk Reduction Engineering Laboratory, Pollution Prevention Research Branch (MS-466), Cincinnati, OH 45268.

Resources

Case Studies in Waste Minimization compiles 68 industry case studies from Government Institutes' monthly newsletter, "Hazardous and Solid Waste Minimization and Recycling Report" as well as case studies developed by EPA's Risk Reduction Engineering Lab. Cost: \$55. To order, call 301-921-2355.

Public Citizen has released a directory, **Renewable Energy: A National Directory of Resources, Contacts, and Companies**, with over 1500 names and addresses of organizations involved with renewable energy technologies (i.e., solar, wind, biomass, solar-hydrogen, geothermal, and hydroelectric) (\$25). Send prepaid orders to: Public Citizen, 215 Pennsylvania Ave. S.E., Washington, DC 20003.

Case Studies from the Pollution Prevention Research Branch

Waste Minimization Assessment for a Manufacturer of Aluminum Cans

A plant producing 1 billion 12-ounce aluminum cans each year was evaluated as part of EPA's Waste Minimization Opportunity Assessments Program.

Waste Generation and Management Activities

Once the cans are formed, they pass through automated spray washing machines where they are cleaned and rinsed. The can is surface treated so the outside will receive a base coat of paint, a printed insignia, and a final coat of clear lacquer. The inside receives a water-sealed vinyl coating. Between these steps the cans are dried.

Most of the hazardous waste comes from the can washing operation. The rinse water from this operation contains oil, hydrofluoric acid, sulfuric acid, nitric acid, and ammonium fluozirconate. The water is treated on-

site and discharged to the sewer. The sludge precipitated from the rinse water treatment process is laden with ammonium fluozirconate and must be hauled off-site for hazardous waste disposal.

Printing and inking operations generate additional wastes. Tap water from rinsing operations generates 30,699,000 gal/yr. Sludge precipitated from the treated tap water is accumulated at the rate of 888,300 lb/yr. Also, painting operations yield 5,400 gal of paint waste. The total cost to treat and dispose of these three sources of waste is \$249,850.

The company already recycles its scrap aluminum, keeps to a minimum its use of water and chemicals in the washing operation, uses a filter press to reduce the water content of the hazardous sludge before shipment off-site, and collects waste oil from the extruder coolant system.

Waste Minimization Opportunity

An opportunity for waste minimization was identified for the hazardous sludge. By substituting a nonhazardous reagent for the currently-used 2% to 4% ammonium fluozirconate, the need to dispose of the sludge at a hazardous waste disposal facility would be eliminated, and \$133,060 would be saved. Because there are no implementation costs, the payback period is immediate.

This assessment was performed by the Colorado State University Waste Minimization Assessment Center. An environmental research brief entitled "Waste Minimization Assessment for a Manufacturer of Aluminum Cans" (#EPA/600/M-91/025) is available from the U.S. EPA Center for Environmental Research Information, Cincinnati, OH 45268. The EPA contact, Emma L. George, can be reached at U.S. EPA, Risk Reduction Engineering Laboratory, Pollution Prevention Research Branch (MS-466), Cincinnati, OH 45268.

Fourteen Small Business Grants Awarded

EPA has selected 14 small businesses out of 203 proposals to receive awards of up to \$25,000 to demonstrate innovative pollution prevention techniques and technologies. Research briefs based on the demonstrations will be distributed to encourage technology transfer of successful pollution prevention methods.

Twelve of the winning proposals are in the category of Source Reduction Methods, and two will demonstrate Reuse/Recycling Techniques. The grants were awarded to:

- ♦ Acro-Tech, Inc. Tigard, OR:
Vented dual stage valving for internal combustion engines
- ♦ Climatran Corp., Englewood, CO:
CFC-free, indirect-direct evaporative air conditioning for transit buses
- ♦ Crown City Plating, El Monte, CA:
Reformulation of buffing compound
- ♦ Earth Safe Industries, Inc., Belle Mead, NJ:
Formaldehyde-free biological preservative
- ♦ Ecoprint, Inc., Silver Spring, MD:
Reducing heavy metal content in offset printing inks
- ♦ Environmental Pesticides Group, Pasadena, TX:
Substitution of natural products for pesticides to kill fire ants
- ♦ Global Plating, Inc., Fremont, CA:
Reusing zinc plating chemicals

- ♦ IonEdge Corp., Fort Collins, CO:
Waste reduction and pollution prevention in cadmium plating
- ♦ Lacebark, Inc., Stillwater, OK:
In-ground production system to reduce nitrate and phosphorous solution
- ♦ Production Machinery, Inc., Bend, OR:
Hydrocarbon emissions reduction in wood veneer drying operations
- ♦ Summit Resource Management, Inc., Fort Wayne, IN:
Environmentally safe fountain solution for printing industry
- ♦ S.R. Taylor and Assoc., Bartlesville, OK:
Reuse of metal fabrication wastewaters via ultrasonic coalescence process
- ♦ Utility Development Corp., Livingston, NJ:
Replacing solder with conductive polymer composites
- ♦ Water Equipment Technologies, Inc., West Palm Beach, FL:
Reduction or elimination of cooling tower chemicals

This is the second year of the Pollution Prevention By and For Small Business grant program. Reports from the 17 projects selected last year in this program are due out this spring. For more information, contact Karen Brown, Office of Small and Disadvantaged Business Utilization, 703-305-5938, or the Center for Hazardous Materials Research at the University of Pittsburgh which administers the program, 800-334-CHMR.

Calendar

Title	Sponsor	Date/Location	Contact
Toxics Use Reduction: Challenge to Maine	Univ. of Maine, The Maine Waste & Toxics Use Reduction Committee	March 11 Waterville, ME	207-581-1491 or 207-581-1488
New England Environmental Conference	Tufts University	March 21-22 Medford, MA	617-627-3451 or 617-627-3291
Pollution Prevention and its Economic Implication	VMI Research Laboratories	April 7-8 Lexington, VA	Tel: 703-464-7331 Fax: 703-464-7618
Reaching Out: Improving Environmental Services to Small Communities	U.S. EPA Region 10	April 16-17 Portland, OR	Andrea Lindsay 206-553-8178
International Composting Research Symposium	U.S. EPA, Ohio State University, others	May 27-29 Columbus, OH	Sarah Seiling 614-292-8571
CFC & Halon Recycling Program; World Recycling Conference & Expo	CMC Recycling Today	June 2-4 Rosemont, IL	Bob Mignarri 203-852-0500
Second U.S. Conference on Municipal Solid Waste Mgt.	U.S. EPA	June 3-5 Arlington, VA	Tel: 202-250-6263 Fax: 202-260-4196
85th Annual Meeting & Exhibition	Air & Waste Management Assn.	June 22-26 Kansas City, MO	Debbie Reichert 412-232-3444

Symposiums

Waking Up the Residential Building Market

March 13-15, Leominster, MA

The 9th Annual Quality Building Conference, sponsored by the Northeast Sustainable Energy Association, New England Electric System, and Energy Crafted Homes, will feature a Builder's Forum, and sessions on healthy homes, solar design, air infiltration, water and energy conservation. Contact NESEA at 413-774-6051.

33/50 Program April 9, Edison, NJ

EPA's Pollution Prevention Research Branch has been holding a series of one-day symposiums to explore reducing 33/50 chemicals in selected industries. The April 9th symposium will focus on metal finishing and fabrication; printing; and industrial organic coatings. Additional symposiums may be held in May, July, and September. Contact: Rita Jones, Peer Consultants, 513-252-1222.

Moving?

Please send mailing label and new address to:

United States Environmental
Protection Agency (PM-222B)
Washington, DC 20460

Official Business

Penalty for Private Use \$300

FIRST CLASS MAIL
POSTAGE & FEES PAID
EPA
PERMIT NO. G-35