



Pollution Prevention News

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FTC Issues Guidelines on Environmental Marketing Claims

On July 28, the Federal Trade Commission announced new guidelines for environmental marketing claims in advertising and labeling of consumer products. The guidelines are intended to help reduce consumer confusion and prevent the false or misleading use of terms such as "recyclable," "degradable," and "environmentally friendly."

FTC Chair Janet D. Steiger said, "Our goal is to protect consumers and to bolster their confidence in environmental claims, and to reduce manufacturers' uncertainty about which claims might lead to FTC law-enforcement actions, thereby encouraging marketers to produce and promote products that are less harmful to the environment." EPA, FTC, and the U.S. Office of Consumer Affairs have been working closely together on a task force on environmental marketing claims.

The new guidelines are not legally enforceable and do not rigidly define environmental terms. Instead, through specific guidance and a series of examples of acceptable and decep-

tive claims, the guides identify the types of claims that should be explained or qualified to avoid deceiving consumers. Terms for which guidance is provided include: degradable, biodegradable, and photodegradable; compostable; recyclable; recycled content; source reduction; refillable; and ozone safe and ozone friendly.

As with any advertising claim, the FTC guidelines specify that any time marketers make objective environmental claims, whether explicit or implied, they must be substantiated by competent and reliable evidence. Environmental claims should also make clear whether they apply to the product, the package, or a component of either.

The guidelines are based on a review of investigatory data, two days of public hearings, and over 100 written public comments. The *Guides for the Use of Environmental Marketing Claims* will be published in the *Federal Register* shortly; copies are also available from the FTC, 202-326-2222.

Energy Star Computer Partnerships Announced with Eight Firms

EPA aims to sign up entire computer industry by June 1993

EPA and eight computer manufacturers jointly announced in June that agreement had been reached to promote energy-efficient personal computers, contributing to the prevention of air pollution associated with power generation.

The agreement is the first one under EPA's Energy Star Computers Program.

Charter partners in the agreement, accounting for 35 percent of U.S. personal computer and work station sales, are: Apple Computer Inc., Compaq Computer Corporation, Digital Equipment Corporation, Hewlett-Packard Company, IBM Corporation, NCR Corporation, Smith Corona Corporation,

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Notes and Resources

Free Online Database

EPA's Online Library System is a free bibliographic database containing more than 1 million environmental reports, documents, and audiovisuals. Updated biweekly, it includes the following databases: EPA's national catalog (citations and summaries on environmental topics plus EPA report distributed through the National Technical Information Service); hazardous waste; clean lakes; EPA Region 1's library; and the chemical collection system.

To dial in, call: 919-549-0720.

Baud Rate: 300-9600.

Parity: Even.

7 data bits per character.

One stop bit.

Duplex: Half.

At the first system prompt, type IBMP5I. At the second system prompt, type OLS. To log out, type Q or QUIT. For more information or a User's Guide, call the EPA Library at 919-541-2777.



Case Studies Compendium

EPA's Pollution Prevention Research Branch has compiled 31 case studies of pollution prevention projects under four of its key technology evaluation and assessment programs. Case studies range from a robotic paint facility to a local school district to a manufacturer of military furniture. The objectives of each program are described and costs and payback periods are summarized for the recommended pollution prevention technologies in each case study. The *Pollution Prevention Case Studies Compendium* (EPA/600/R-92/046) is available from: U.S. EPA, Center for Environmental Research Information, 26 W. Martin Luther King Drive, Cincinnati, OH 45268, or from the Pollution Prevention Information Clearinghouse (PPIC), 703-821-4800.



Gulf Coast Library

The Gulf Coast Environmental Library, formerly the Texas Pollution Prevention

Information Center, is located at Lamar University in Beaumont, Texas, and offers a reference library and electronic bulletin board to large and small companies and members of the public seeking environmental information. The library electronic bulletin board contains the online library catalog and messaging center, and is accessible toll-free, at 1-800-252-6880. The library is located at 886 Georgia Avenue in Beaumont. Mailing address: P.O. Box 10613, Beaumont, TX 77710. For more information, contact the librarian, Julie Weaver, 409-880-8897.



AIPP Elections

The American Institute for Pollution Prevention has re-elected its chairperson, Dr. Robert B. Pojasek of GEI Consultants, Inc., who represents the American Chemical Society for the Institute. Re-elected as Vice-Chair was Dr. R. Lee Byers of the Aluminum Company of America, representing the Aluminum Association for AIPP. Another 20 professional, industry, state, and federal organizations are represented on the Institute which is operated by the University of Cincinnati under a cooperative agreement with EPA. For more information on AIPP, contact Dr. Thomas Hauser, Executive Director, AIPP, Civil & Environmental Engineering, University of Cincinnati, Cincinnati, OH 45221-0071.



Research Grants Awarded

Marking the end of its first year of operation, the Pacific Northwest Pollution Prevention Research Center has announced the award of eight grants totalling just under \$200,000. The funds will go towards a variety of projects, ranging from reuse of caustic solutions to a comparison of surge irrigation with conventional irrigation, to a small business source reduction loan program involving the banking industry in the State of Washington. The Center will be expanding its activities

this year by sponsoring roundtable discussions to spur thinking about waste reduction in targeted industries. Fish processing and pulp and paper will be the first industries examined. "One of the Center's most important functions is to bring top minds together to brainstorm ideas that will reduce pollution," said Madeline M. Grulich, Executive Director of the non-profit Center.



All About CRADAs

EPA and the Department of Energy (DOE) will hold three conferences in September to acquaint business and academia with opportunities to collaborate with federal laboratories to develop innovative environmental technologies that can be patented and licensed. The meetings will be held as follows: Sept. 3-4, Las Vegas, NV; Sept. 9-10, Cincinnati, OH; Sept. 29, Research Triangle Park, NC. DOE has negotiated over 140 cooperative research and development agreements (CRADAs) as of June 1992. In a recent agreement, DOE will help fund thermal control systems for batteries, as part of a four-year program of a consortium of automakers, battery manufacturers, and the electric utility industry to develop advanced batteries that could make widespread use of electric cars feasible by the year 2000.



Call for Papers

A Pollution Prevention Conference on Low and No-VOC Coating Technologies will take place May 25-27, 1993 in San Diego, CA. Sponsored by EPA, the Research Triangle Institute, and the American Institute for Pollution Prevention, the conference will provide a forum for the exchange of technical information on coating technologies, particularly improved coating techniques that result in less VOC and toxic air emissions. Abstracts are due September 8, 1992 to: Coleen M. Northeim, RTI, P.O. Box 12194, Research Triangle Park, NC 27709. (Tel: 919-541-5816.)

Technologies

E-Lamp Technology Moves Lighting into Electronic Age

A new technology designed to reduce the amount of energy used for lighting—the E-Lamp—was announced in June by Intersource Technologies, a Silicone Valley company, and American Electric Power Co., which is investing \$6.5 million in the new technology. The E-Lamp is an electronic light bulb that is designed to combine the compactness and light intensity of incandescent bulbs with the energy efficiency of fluorescent lamps. Pierre Villere, chairman and chief executive officer of Intersource, was reported as saying that current fluorescent bulbs are “the eight-track of the ‘90s. We think we have the CD.”

The E-Lamp’s makers say that the lamp, which is comparable in size and shape to conventional light bulbs, is four times as efficient as an incandescent bulb with identical lighting output.

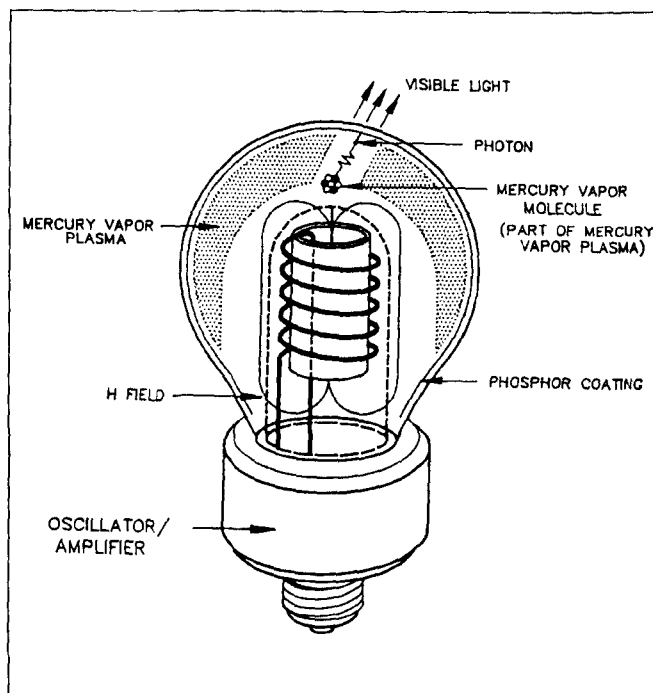
Moreover, with no filament to burn out, they claim it will last 15,000 to 20,000 hours rather than the 750-1,000 hours of a conventional light bulb.

Initially, Intersource plans to market an R-series replacement bulb for traditional 75-watt flood lamps installed as recessed lighting fixtures in stores, offices and factories. Within a few years,

the company intends to move into the market for traditional “A-Line” light bulbs, of which 1.5 billion were sold last year in the U.S.

According to Intersource, the E-Lamp works by a magnetic coil that generates a high-frequency radio signal. When a sealed glass globe containing the same gas mixture used in conventional fluorescent lamps interacts with this signal, the gas is converted to what physicists call a ‘plasma.’ The plasma emits invisible light, striking a phosphor coating on the inside of the glass, which then glows with visible light.

One concern is whether, when the bulbs come on the market at \$10-20 a piece, consumers will find them too pricey. Villere says that with a little forward thinking, however, the E-Lamp



will be a great deal: “For most businesses, their investment would be recovered in just a few months. Homeowners would save enough money on their electric bills in just one year to recover the entire purchase price, and they wouldn’t need to replace another bulb for 10 to 20 years.”

Energy Star Computers Program

(Continued from page 1)

and Zenith Data Systems.

Office equipment is the fastest growing electricity load in the commercial sector. Computer systems alone are believed to account for as much as 5% of commercial electricity consumption. Research shows that the vast majority of the time the nation’s 30-35 million personal computers are turned on, they are not in active use, and 30-40% are left running at night and on weekends.

Under the voluntary agreement, the Energy Star Computer Partners will introduce personal computers and/or monitors capable of entering a low-

power state (defined as 30 watts or less) when the unit is inactive, and will educate customers about the energy savings and pollution prevention potential of turning off existing computers. Computers meeting the terms of the agreement will be identified for consumers by the EPA Energy Star logo.



Through corporate purchasing efforts modeled after EPA’s Green Lights program, EPA will encourage consumers to buy computers bearing the EPA

Energy Star logo wherever they are cost-effective. The logo will make its debut on products and in advertisements one year from this June. EPA is also working within the federal government, the largest purchaser of office equipment in the world, to encourage agencies to procure Energy Star products.

The new personal computers could save enough electricity to power Vermont and New Hampshire each year and save ratepayers up to \$1 billion in annual electricity bills. Equally important for many computer operators is the reduced likelihood that power-hungry computer systems will overtax capacity in buildings that are not designed to handle a heavy electrical load.

For more information, contact Brian Johnson. 202-232-0114

Watersheds

EPA Adopts Watershed Protection Approach

by Anne Robertson
EPA Office of Water

Historically, EPA's Office of Water has addressed the environmental problems affecting the Nation's waters by targeting specific pollutants and implementing pollutant-specific controls, often referred to as end-of-pipe solutions. These controls limit the amount of a given pollutant that can be discharged into a water body from a single source. This approach has produced significant improvements in

water quality; however, many waters remain degraded and suffer from continued contamination. Pollutant-specific approaches are not sufficient to address major problems such as nonpoint sources of pollution (also referred to as "wet weather runoff") and habitat degradation that plague U.S. waters today. In response to the need for a "big picture" solution, EPA has adopted a watershed protection approach.

The watershed protection approach focuses on water basins which are

naturally defined geographic areas. This approach expands the traditional focus on "conventional pollutants" and toxics to include physical water quality (e.g., temperature, flow, circulation), habitat quality (e.g., channel morphology, composition, and health of biotic communities), and biodiversity (e.g., species number and range). A watershed approach addresses both surface and ground waters.

EPA's watershed approach builds on existing geographically-based programs

Continued on next page

Helping Small Business Protect Groundwater

Public attention tends to focus on the environmental issues of corporate giants, whose pollution problems—and solutions—are quite large-scale. Small quantity generators (facilities that produce 100 to 1000 kg of hazardous waste per month) are often overlooked, but can generate serious pollution problems in their local areas.

To protect local groundwater resources from problems caused by small quantity generators, the Suffolk County Water Authority in Long Island, NY, offers a free, confidential technical assistance program for source reduction that focuses on small businesses. "That's the void we're trying to fill—for those who are not a DuPont or an Exxon," explained James Hartnett, acting director of SCWA's Watershed Oversight and Protection Department. SCWA relies exclusively on groundwater to serve the county's 1.2 million customers.

SCWA found that the businesses that pose the biggest threat to the watershed fall in the categories of vehicle maintenance (auto dealers, body shops and service stations), dry cleaning, printing/photoprocessing, light construction, metal finishing, and metal fabrication. "Because of the vast number of these establishments and the relative lack of regulatory control over their operations, they present the ideal market for SCWA's Source Reduction Program,"

explained the program's progress report. SCWA's Source Reduction Program has arranged trade group seminars, set up site visits, developed waste reduction fact sheets for different types of industries, and contacted businesses by mail

"We don't want to do the work for them, but we want to send them in the right direction."

and telephone to make them aware of its services.

The program has focused most of its efforts thus far on the vehicle maintenance sector. Program staff have made presentations to the Long Island Gasoline Retailers Association, the Greater New York Auto Dealers Association, and other such groups.

As expected, these presentations generated requests for on-site audits, which were followed up with written reports and suggestions, many of which stressed the economic benefits of waste reduction. In the case of one car dealer, Source Reduction Program staff offered to compare the costs of having an in-house recovery unit for recycling waste antifreeze with the dealer's current practice of using a contractor to haul the antifreeze away. "You can then decide if the costs of the hardware are justified by the possible savings," wrote the SCWA

staffer.

In another case, program staff advised an auto repair shop to reduce its inventory of oils and other fluids. "By keeping smaller quantities on your premises, you will not be required to purchase as many

secondary containment vessels, thereby lowering your costs of compliance." SCWA also recommended that the shop not only

drain its used oil filters, but collect them in a drum for pick-up by a recycler, who could recover 80 percent of the oil that remains after draining.

SCWA's Source Reduction Program tries to save businesses from having to spend time and money just to find the appropriate resources to attack their waste problems, explained Hartnett. "We don't want to do the work for them, but we want to send them in the right direction."

Owners and managers of small businesses seem to be grateful for the program's services. As one owner wrote, "[Your staff member] was extremely helpful. I have been looking for information and help and have been unsuccessful in getting such honest information and service elsewhere."

For more information, contact SCWA's Source Reduction Program at (516) 563-0308.

Lakes and Rivers

Continued from previous page

including the Great Lakes, Gulf of Mexico, Chesapeake Bay, National Estuary, and Clean Lakes Programs. Within a particular watershed, the approach involves evaluating the condition of the natural resources and the range of environmental threats, enlisting the active participation of public and private stakeholders, and implementing holistic strategies for restoring or protecting the resources. Focusing on natural resources and systems makes it possible to detect problems not usually revealed by traditional water pollution control activities, for example, habitat loss and degradation.

Pollution prevention activities will play an integral role in the protection of watersheds. For example, farmers will be encouraged to apply less fertilizer and pesticides to decrease the impacts of agricultural runoff. Watershed protection projects often include efforts to restore natural channels and vegetate the areas adjacent to streams in order to reduce sedimentation caused by runoff and erosion.

Example: Merrimack River

The Merrimack River Watershed Protection Project is one of several in which EPA has a lead role. The watershed covers 5,010 square miles in Massachusetts and New Hampshire and provides drinking water for more than 300,000 people. The river and its watershed are used for industrial and agricultural purposes, waste assimilation, flood control, recreation, and hydropower generation and provide wildlife habitat. Wastewater discharges, toxic contaminants, urban runoff, increased water withdrawal, and wetlands loss are among the threats to long-term water quality and ecological integrity.

Beginning in 1988, EPA Region 1, the States of Massachusetts and New Hampshire, and the New England Interstate Water Pollution Control Commission began an initiative to improve and protect water quality in the Merrimack system. Subsequently, regional planning agencies, the U.S.

Great Lakes Update: Pollution Prevention in the Auto Industry

by Danielle Green
EPA Great Lakes National Program Office

One of the projects coming out of the International Joint Commission meeting last September was an Auto Industry Pollution Prevention Project. Over the last year, the project has taken shape as a working partnership between government and business, including Chrysler, Ford, General Motors, and the Motor Vehicle Manufacturers Association of the United States, Inc. The State of Michigan is taking the lead in coordinating government activities with the other Great Lake states, EPA, and Canada.

The automobile industry is prominent in the Great Lakes region, with over 200 plants in operation in the Great Lakes states and Ontario. Thousands of firms in the Great Lakes Basin serve as

suppliers to the auto industry. Promoting pollution prevention is an important way to protect the environment and enhance economic competitiveness.

In December 1991, the Michigan Department of Natural Resources and the auto companies agreed on a list of 65 persistent toxics to be targeted under the Auto Project, including halogenated and non-halogenated hydrocarbons, metals, and pesticides. Persistent toxics are defined as any toxic substance that has accumulated to levels which significantly impact the Great Lakes system, as evidenced by direct measurement. The list will remain in effect for four years to allow for adequate planning and implementation of pollution prevention strategies.

Each auto company has identified its historical pollution prevention efforts and is currently evaluating which of the targeted substances are used in its operations. In addition, each auto company will survey its plants in the Great Lakes states to establish priorities for targeting pollution prevention efforts. The auto companies will provide Michigan with descriptions of individual pollution prevention projects, goals, and time frames.

The auto companies, MVMA, and

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Geological Survey, the Fish and Wildlife Service, the National Park Service, the Army Corps of Engineers, local governments, industries, utilities, universities, and a variety of organizations have joined the Merrimack effort. The following six goals have been set for the project:

- Reduce pollution load by 30 percent
- Meet water quality standards
- Identify and protect priority wetlands, critical habitats, and enhance biodiversity
- Increase communication between agencies and organizations
- Build a constituency
- Public stewardship.

EPA's Office of Water is committed to meeting the challenges of making the watershed protection approach a pollution prevention success and in producing cleaner, healthier waters throughout the nation.

For more information, contact Anne Robertson at 202-260-9128.

Resource

Local governments looking for help in tackling tough water quality problems can turn to *Water Quality: Protection and Remediation*, part of the Building Sustainable Communities handbook series from The Global Cities Project. Featured in the handbook are step-by-step projects, sample ordinances, resource publications, and key contacts. Cost: \$40 (\$20 for government and non-profits). Contact: Karen Bates, The Global Cities Project, 2962 Fillmore St., San Francisco, CA 94123, 415-775-0791.

Corporate Notes

Corporations Report Going Beyond Compliance

A few years ago, if a company concerned itself with environmental affairs at all, it focused strictly on complying with the technicalities of command-and-control regulations. Today, compliance is still a major focus, but pollution prevention efforts may be

include measuring the environmental impact of its businesses. "We've looked at where we can make improvements. For example, we've made piping changes and gotten better yields per batch, and we now send packaging back to suppliers," Lafond says.

environment by, for example, carpooling and recycling. "Thousands have been eager to take part in minimization and recycling. It was a matter of taking advantage of that resource," Murphy says.



Disney World's Main Street cars run on compressed natural gas.

Capturing Consumers' Interest

Rubbermaid has put into place a number of process changes that, according to the company, drastically reduce the use of toxic materials, chemicals and solvents. Rubbermaid also has put extensive resources into capturing consumers' interest in recycling and source reduction. Among the company's newer products are an insulated cooler with reusable food and beverage containers, and a line of containers to separate and collect recyclable materials in the home.

The Walt Disney Co. also has put into place a number of source reduction and recycling projects in the last couple of years. At the same time, however, Disney has been getting its compliance house in order. Kym Murphy, corporate

vice president of environmental policy at Disney, says that when he was appointed to his position less than three years ago, "We went into environmental culture shock. We didn't have the human infrastructure to comply with environmental regulations. The regulations and laws are quite complex. For example, to the hundreds of people in the field dealing with paints, the regulations are very complicated. If you put 22 pounds of legislative jargon on a painter's desk, it's overwhelming."

Disney has encouraged pollution prevention among its 57,000 employees through its Environmentality program, a program that requires pledges from employees to reduce their impact on the

News and Notes

- **Anheuser-Busch** has developed a design that will reduce the amount of aluminum in the company's cans by 20 million pounds a year. The new cans have a lid that is one-eighth inch smaller in diameter than the lids currently used by Anheuser-Busch and most other beverage companies. The design was developed through a partnership among the packaging and engineering departments at Anheuser-Busch, brewery equipment supplies such as can fillers, and Chicago-based American National Can Company.

- Tests of a soybean oil diesel fuel blend recently were completed at **Lambert Airport** in St. Louis. The fuel, a blend of 20 percent soybean based diesel (methyl soyate) and 80 percent conventional diesel, was used in 10 of the airport's maintenance vehicles. According to the Missouri Soybean Merchandising Council, soybean oil diesel fuel is essentially sulfur free, and it emits significantly fewer particulates, hydrocarbons and carbon monoxide than regular diesel fuel.

- **N-Viro** has won a number of awards for its technology that turns sewage sludge into an agricultural and construction material that resembles a fertilizer and soil. The N-Viro technology thickens, conditions, deodorizes, stabilizes, and pasteurizes wastewater sludges by mixing them with cement kiln dust or with other similar alkaline materials such as fly ash from coal burning facilities.

beginning to take center stage. S.C. Johnson & Son, The Disney Co., and Rubbermaid Inc. are typical examples.

S.C. Johnson is "much more involved in waste minimization than the company was several years ago," says Timothy Lafond, environmental operations manager. "As regulatory pressures have increased and disposal costs have risen, source control has become cost effective. Source control was always a good idea; now it's good business. That has really changed."

Lafond estimates that S.C. Johnson's environmental focus is about 50 percent compliance, "our ongoing job," and 50 percent waste minimization. The company's waste minimization projects

Pollution Prevention: Painting and Paint Stripping

by Steve Hillenbrand
Waste Reduction Engineer,
Tennessee Valley Authority

In pollution prevention or waste reduction assessment reports and case studies, the following statements appear quite frequently:

- ... and the company should change to water-based paint which will eliminate the hazardous waste from its coating operation.
- The switch to water-based paints [or powder coatings] reduced their VOC emissions to ZERO.
- The lead-free paint does not produce a sludge with heavy metals.
- The equipment is now stripped prior to re-coating by blasting with [take your pick: plastic beads or dry ice or ice crystals or baking soda] which completely eliminated the operation's hazardous waste.
- Stripping the paint with this non-hazardous chemical stripper will eliminate the need to dispose of the paint sludge as a hazardous waste.

The above statements are not quite true!! Although a switch to water-based paints, alternative strippers and stripping methods represents a marked improvement, the new methods are not pollution-free and may still result in emissions

or wastestreams of environmental concern.

Water-Based Paints

Water-based paints do greatly reduce VOC emissions over conventional paints and cleanup is primarily water and usually does not generate a waste that is an environmental concern (although, if disposed of as a wastewater, chemical oxygen demand may be a problem for some discharges to publicly owned treatment works).

However, most water-based paints still contain from about 30 g/l (.25 lb/gal) to 250 g/l (2 lb/gal) Volatile Organic Compound (VOC) liberating solvents even though they are "water-based." There are some water-based formulations that contain less than 30 g/l but they usually are not suitable for industrial applications.

Water-based paints also contain the same or similar range of heavy metals as other paints. Under the Lead Based Paint Poison Prevention Act, the term "lead-free" paint means that it contains less than 600 ppm or .06% lead. A rule of thumb for leachability of paint sludge (either from cleanup or stripping) is 1 in 20.

All paints have varying amounts of heavy metals either as additives or through process contamination. A lead

content of 500 ppm is not unusual and a Toxicity Characteristic Leaching Procedure (TCLP) test could leach as much as 25 ppm which is much greater than the "land ban" limit of 5 mg/l. Other heavy metals that might be found in paint formulations include barium and in older formulations, mercury, cadmium, chromium, and selenium.

Paint manufacturers' literature, including their Material Safety Data Sheets, usually do not give sufficient information to determine the concentrations of VOCs and heavy metals. This is due in part to the constantly changing formulations to improve the product, which usually also reduces the VOCs and heavy metal content. VOC content can be determined easily from most manufacturers' product information hotlines. Heavy metal content can vary from batch to batch and is best determined by a TCLP test of the paint sludge.

Powder Coating

Powder coatings *almost* eliminate VOCs and are reportedly a superior coating system in terms of durability, reducing wastes, and operating costs. Although disposal of sludge is not usually a problem with powder coatings, some VOCs can nevertheless be emitted during the curing process. The VOC emission of powder coatings is usually minimal and would only be a problem in massive operations or if other VOC emitting processes were close to the air standards allowable limit.

Paint Stripping

"Non-hazardous" stripping methods greatly reduce the total toxicity and types of toxics generated. They also usually improve worker health conditions during the operation. However, even though the method or vehicle used to strip a coating is not hazardous, the wastes generated might be a hazardous waste stream due to the contents of the stripped material. State-of-the-art industrial paint, when cured, has potential to exhibit the characteristics of a hazardous waste. If it does exceed the characteristic limits for a hazardous waste, it must be handled, treated, and disposed of as a hazardous waste.

Great Lakes

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Michigan have agreed to establish a process for addressing regulatory issues that may need to be resolved in order for voluntary pollution prevention efforts to be successful.

Supplier Outreach

Perhaps one of the most important aspects of the Auto Project is the commitment by the auto companies to work with their suppliers to promote pollution prevention. A supplier pollution prevention forum is scheduled for Fall 1992. The auto companies will also participate in technology transfer forums to share non-proprietary information on prevention.

Parallel Canadian Program

In May 1992, the governments of Canada and Ontario and the Big Three automakers in Canada (Chrysler Canada, Ford Motor Company of Canada, and General Motors of Canada) and the MVMA signed a Memorandum of Understanding for voluntary reduction in toxic substance use, generation, and release from automotive manufacturing facilities. The Canadian auto companies will also work with their suppliers. A joint industry/government task force has been set up to manage the project, beginning with the development of a list of substances to be targeted for reduction.

Pollution Solutions

INFORM Report Takes on Office Paper Waste

One might guess that the amount of paper used in offices has decreased over the last 30 years, as computers have become an essential part of the workplace.

Not so! From 1.5 million tons of paper thrown away per year in 1960, the amount of office paper discarded grew to 7.3 million tons per year in 1988. By 2010, the office paper mountain is expected to hit 16 million tons.

There are a number of simple strategies that could slow the paper proliferation, according to a recent report, *Reducing Office Paper Waste*, by the nonprofit research and education organization INFORM. Office paper is a good candidate for source reduction, says INFORM, because "companies have a relatively high degree of control over its use and disposal. Additionally, companies and institutions can save substantial amounts of money by reducing office paper waste."

Duplexing, or photocopying on both sides of the paper, would result in significant paper savings, says INFORM. Using both sides of other paper as well would further reduce paper waste. "Almost every piece of paper

used in an office—from pads to computer paper to file folders—can be used on both sides. If one-half of the 7.3 million tons of office paper in the United States waste stream in 1988 was used on both sides, 1.8 million tons of paper would be saved," says the report.

Other suggestions in the report include:

- Proofread documents on the computer screen before printing.
- Circulate memos instead of distributing multiple copies.
- Avoid fax cover sheets.
- Use central rather than individual filing.
- Print documents single-spaced rather than double-spaced.

INFORM says that duplexing to the estimated maximum possible extent could result in a savings of \$414 million for U.S. offices. There are obstacles to implementing duplexing, however. According to INFORM, many photocopiers lack the capacity to duplex. Also, photocopiers take longer in duplex mode than in single-sided

mode, and duplex mode often leads to paper curling, which in turns leads to jams and breakdowns. INFORM recommends that corporate and government procurement policies include specific duplexing reliability standards to provide manufacturers with an incentive to improve duplexing reliability.

The INFORM report also takes a look at a recent corporate initiative at AT&T to reduce office paper use. To help meet a corporate goal of reducing office paper waste 15 percent by the end of 1994, AT&T introduced a policy at its centralized reproduction facilities requiring that documents be copied double-sided unless clients request otherwise. AT&T estimates that increasing its average duplex rates from 22 percent to 50 percent would reduce paper use at the company by 77 million sheets of paper annually and reduce costs to the company by \$385,000.

For a copy of *Reducing Office Paper Waste*, contact INFORM at 381 Park Ave. S., New York, NY 10016-8806. Tel: 212/689-4040.

Office Paper Recycling Challenge

A consortium of U.S. corporations, state legislatures, mayors, and county officials participating in the National Office Paper Recycling Project has issued a challenge to triple the recycling of office waste paper by 1995. Aiming the challenge at the nation's largest public and private employers, the group is calling for a significant increase in the purchase of products made with recycled paper fiber, as well as in the collection of office waste paper. EPA Administrator William K. Reilly supported the initiative at a news conference in May, saying: "I want to sign EPA up!"

The project was formed 18 months ago to develop a national office paper

recycling strategy. Highlights of the strategy released in May include a call for greater cooperation between manufacturers of office machines and the paper industry to enhance the recycling of office paper and the compatibility of recycled-content paper with imaging products, increased emphasis on the development of de-inking technology, the development of additional products containing recycled paper fiber, and the establishment of uniform labeling standards for recycled-content products.

For more information on joining the "Paper Challenge," contact Brian Day, U.S. Conference of Mayors, 1620 Eye St. NW, Washington, DC 20006, Tel: 202-223-3088.

Conferences:

IRON AND STEEL INDUSTRY:

A conference jointly sponsored by EPA, the American Institute for Pollution Prevention, and the American Iron and Steel Institute will offer a pollution prevention forum for iron and steel makers, regulatory officials, and others on technical and policy issues. **October 14-15, Chicago, IL.** Contact: Linda Reinders, 919-493-0078.

RHODE ISLAND: Pollution Prevention Conference focusing on practical information, with special sessions on textiles, solvent substitution, metals recovery, and other topics relating to the metal finishing, photoimaging, painting, and solvent-user industries. **Sept. 30-Oct. 1, Warwick, RI.** Contact: Richard Enander, 401-277-3434.

Pollution Solutions

CA Company Convinces Commuters: Biking is Better



Fleetwood's bicycle commuters at lunchtime event.

Almost everyone can ride a bike. Yet most people aren't going to start biking to work unless they get a little push.

One of the best pushers around is Roberta Holden, Transportation Coordinator for Fleetwood Enterprises, Inc. Fleetwood is bike crazy. The recreational vehicle manufacturer based in Riverside, California, is doing just about everything to convince its employees to use bikes to commute to work. And the message is getting through.

Out of a 600-person workforce, there were only a handful of dedicated bicycle commuters when Fleetwood began its bike program a few years ago. The program was part of Fleetwood's response to Regulation XV, a California law that encourages businesses to get workers out of their cars.

With a lot of employee participation, Fleetwood set up a series of programs to promote bicycling. The company invested in several bikes to loan to workers for up to 90 days, giving them a chance to test bike commuting without a significant personal investment. Employees can then buy the bike after the loan period at a significant discount. Anyone who commits to ride to work three days or more per week receives a

reflective vest, helmet, mirror, and a nite lite from the company.

Even so, a lot of people won't start biking to work unless they're sure it won't be a hassle. "The key is to eliminate all the reasons people won't ride bikes," explains Shelly Dobkins, an employee who has been instrumental to the success of the program. "They shouldn't have to worry about being stranded or coming to work sweaty."

So Fleetwood took steps to make pedaling hassle-free. Riders that get stuck due to an accident or flat tire can call the company's Employee Commuter Services and be picked up quickly. Fleetwood designed and installed bike lockers for easy parking and security, and provides access to a fitness center with showers in the morning. Special lockers are available for people to store up to a week's worth of outfits. There's even a maintenance facility with employee volunteers who help with minor bike repairs.

An important part of the program is the "Fleetwood Mud, Sweat, and Gears" bike club. Club members lay out their routes on a master map, enabling riders to meet and "buddy" to and from work. They also conduct safety workshops and plan lunchtime and weekend

outings. Members of the club make it known that they are available to answer questions for those who are thinking about biking to work for the first time.

Then there's Bike to Work Day, held in May. Everyone biking to work gets free pancakes cooked up by management. "It's really a good way to get people to start biking for the first time," says Holden. "It's quite a morale builder."

The time and energy put into the program have paid off. Seventy-five employees, 12% of the work force, now ride to work regularly. And the impact of the company's efforts has gone beyond Riverside. "We get a call about once a day from people throughout California asking us for more information about our program," says Holden. Why has it worked so well? One reason, according to Dobkins, is that "management has been very supportive." Many of Fleetwood's managers demonstrate that support every day when they pedal to work.

For more information, contact: Roberta L. Holden, Fleetwood Enterprises, Inc. 3125 Myers Street, P.O. Box 7638, Riverside, CA 92524. Tel: 714-351-3500.

This article is reprinted from *The Action Exchange*, a bimonthly bulletin highlighting outstanding environmental action published by The Environmental Exchange, a national nonprofit organization that gathers and disseminates information on local environmental initiatives. Descriptions of programs and initiatives are being compiled in a series of reports entitled *What Works*. The first report, *What Works Report #1: Air Pollution Solutions*, analyzes the strategies and impact of local efforts on air pollution problems and profiles programs that illustrate the potential of local initiatives. To order, send \$15 (plus \$2 S&H) to The Environmental Exchange, 1930 18th St. NW, #24, Washington, DC 20009 (202-387-2182).

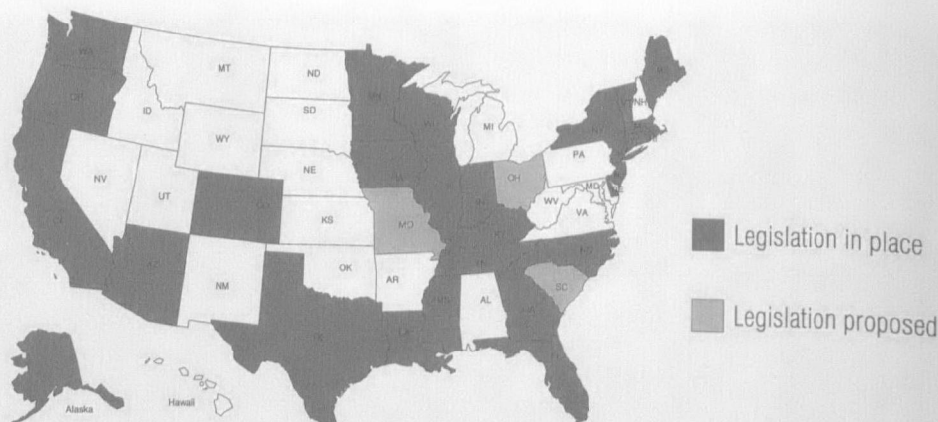
State Pollution Prevention Legislation

Since 1987, 27 states have enacted legislation designed to promote pollution prevention as the preferred method of waste management. This legislation represents a deepening commitment on the part of the states to foster the adoption of pollution prevention options in their generating communities.

Source reduction is mandated as the most favored method of waste management in 25 of the 27 pieces of legislation. An explicit multi-media focus of activities is called for in 21 states. Toxic materials use reduction is emphasized in 10 states.

Type #1: Colorado

Colorado enacted a bill of this type last spring. The Colorado legislation mandates the establishment of a Pollution Prevention Advisory Board responsible



Type #2: Arizona

Pollution prevention facility planning for TRI facilities is an important aspect of the recently enacted Amendments to the Arizona Hazardous Waste Management Statutes. The facility-wide pollu-

- identification of the facility
- the name of the senior official with management responsibility
- certification by upper management as to the accuracy of the plan
- a statement of management policy
- specific pollution prevention goals for the facility
- a statement of scope and objectives
- pollution prevention opportunity analysis
- a statement of pollution prevention activities already in place
- employee awareness and training programs
- provisions to incorporate the plan into management practices
- a description of options considered and explanation for those not implemented.

The Arizona law also sets up a technical assistance program and a Hazardous Waste Management Fund to implement the act. The fund is made up of fees assessed on facilities that dispose of, store, or ship off-site any hazardous wastes.

Although the details and structures vary greatly from state to state, most state pollution prevention legislation tends to follow one of these two models. More details are available in WRITAR's *Survey and Summaries of State Legislation Relating to Pollution Prevention*. For more information or to order a copy of the *Survey* (\$25 plus postage and handling), please contact WRITAR at 612-379-5995.

Texas

Texas Program Combines Citizen and Corporate Participation

Annually, Texas businesses and industries contribute 20 percent of the hazardous waste and 13.9 percent of the reported toxic releases in the United States. In addition, Texas households generate just under two million tons of household hazardous waste per year. This pollution has been targeted by The Texas Water Commission in its new program, Clean Texas 2000, a project that will reach Texas companies and everyone else in the state as well.

"The focus of Clean Texas 2000 is for industry, citizens, and the state government to form partnerships," says Brad Cross, assistant partnership coordinator of Clean Texas 2000. "We're encouraging industries, local governments and citizens to work together on hazardous waste and toxics reduction and recycling, for example."

Citizens participate in Clean Texas 2000 through programs such as the state's citizen volunteer water quality monitoring program. Through this program, the Texas Water Commission provides technical assistance and education to volunteers. The volunteers then sample surface and groundwater in their parts of the state and submit their findings back to the Commission. The Commission hopes to have as many as 20,000 citizen monitors by the year 2000. Citizens also are encouraged to participate in Clean Texas 2000 by collecting and returning unused pesticide and household hazardous waste, composting yard waste, and participating in recycling programs.

Two Feet of Letters

Although Clean Texas 2000 was just announced in April 1992, citizen participation has been strong. "We have a stack of letters two feet high from citizens telling us what they're doing," says Cross.

Business and industry are asked to participate in Clean Texas 2000 by conducting an environmental audit to identify the amount and type of pollution they are generating, and to prepare a pollution prevention plan



FMC Corporation of Pasadena, TX has developed a technology to recover and reuse the methanol used to regenerate a hydrogen peroxide purification unit. The technology will reduce the generation of more than 288,000 gallons of hazardous waste per year and will save more than 19 billion Btus per year. FMC's methanol recovery technology is a demonstration project funded by the NICE³ grant program through the Texas Water Commission and the Texas Governor's Office. NICE³ (National Industrial Competitiveness through Efficiency: Environment, Energy, and Economics) is jointly sponsored by EPA, DOE, and the Commerce Dept.

that will reduce hazardous waste, nonpoint source pollution and pollution discharged into the waterways. The commissioners of the Texas Water Commission are visiting with the state's top 40 hazardous waste generators to encourage them to voluntarily reduce hazardous waste by 50 percent by the year 2000, work with citizen groups, and provide support and services to Clean Texas 2000 programs. Participating companies, which will provide annual reports on their progress, will be placed on an industry honor roll.

In turn, the Texas Water Commission is expanding its technical assistance program and streamlining its procedures to shorten the regulatory processes and provide greater certainty about the time required for approvals. This streamlining, called "Operation Paper Chase," will help "cut red tape and unnecessary levels of bureaucracy," according to Clean Texas 2000 organizers. At the same time, the Commission will work for tougher penalties for repeat offenders with an emphasis on pollution prevention.

Goals of Clean Texas 2000, which also includes a strong public education component and an environmental

awards program, include an overall reduction by 50 percent or more in the release of toxics and/or the generation of hazardous pollutants in Texas from 1987 levels, by the year 2000. The Texas Water Commission also hopes to reduce the disposal of solid waste in landfills by as much as 50-60 percent by 2000.

Texas ACB Joins Green Lights

In March, the Texas Air Control Board became the first Texas state agency to join the Green Lights program. Charged with safeguarding the air quality of Texas, the Texas Air Quality Board has installed energy efficient lighting for its nearly 185,000 square feet of office space.

EPA estimates that if all businesses adopted high-efficiency lighting techniques, 11 percent of all electricity used in the United States could be saved. The Texas Air Control Board has calculated that an 11 percent reduction could prevent the emission of 145,000 tons of sulfur dioxide, 76,000 tons of nitrogen oxides and 20 million tons of carbon dioxide by large users of energy in Texas each year.

Calendar

Title	Sponsor	Date/Location	Contact
Annual Conference & Expo	Water Environment Federation	Sept. 20-24 New Orleans, LA	Nancy Blatt 703-684-2400
1992 World Congress on Adventure Travel & Eco-Tourism	UNEP, Canadian Parks Service, B.C. Ministry of Tourism	Sept. 20-23 Whistler, BC	Tel: 303-649-9016 Fax: 303-649-9017
1st Annual Conf. for Southern States on Hazardous Waste Min.	MISSTAP, DoD, EPA Regions 4, 6, MS Dept. of Env. Quality	Sept. 22-24 Biloxi, MS	Dr. J. Carpenter 601-325-8067
Minimization & Recycling	Haz. Materials Control Resources Institute	Sept. 22-24 Crystal City, VA	HMCRI 301-982-9500
Protecting Our Nation's Waters	National Environmental Health Assn.	Sept. 27-30 Norfolk, VA	303-756-9090
Pollution Prevention Conference & Expo	R.I. Depts. of Econ. Devel., Environmental Management	Sept. 30-Oct.1 Warwick, RI	Eileen Marino 401-277-3434
Conference on Surplus Asset Management & Disposition	Investment Recovery Assn.	Oct. 12-14 Chicago, IL	Tracy Waddell 216-899-0010
Pollution Prevention Technology & Application (course)	University of Missouri - Columbia	Oct. 14-15 Columbia, MO	John Atkinson 314-882-8880
9th Annual New Jersey Environmental Exposition	NJDEPE, others	Oct. 19-21 Somerset, NJ	Env. Expo Inc. 908-788-8889
Tropospheric Ozone, Nonattain- ment & Design Value Issues	Air & Waste Management Assn.	Oct. 28-30 Boston, MA	Marci Mazzei 412-232-3444
12th Annual Intl. Symposium: The Year of Clean Water	North American Lake Management Society	Nov. 2-7 Cincinnati, OH	NALMS 904-462-2554
Budapest '92: Forum for Technology Transfer	EPA, DOE, Florida State University, others	Oct. 12-16 Budapest, Hungary	Susan Lampman 904-644-7539
Pollution Prevention	AWMA, WEF, NSWMA, AIPP	Nov. 18-20 Dallas, TX	Martha Swiss 412-232-3444
Pollution Prevention: National Regulatory Update	Government Institutes	Dec. 3 Washington, DC	Educ. Dept. 301-921-2345

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