

Pollution Prevention News

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To be added to our mailing list, please write: Pollution Prevention News U.S. EPA 401 M Street SW (PM-222B) Washington, DC 20460

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Editor's Corner

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1992 is shaping up as another important year in pollution prevention. The level of activity and sophistication that we are achieving in environmental programs in all sectors of society is something to be proud of.

Pollution prevention is getting more attention in all sectors. However, implementation of the concept and of the required changes in institutions continues to be a slow process.

With the economy currently in a slow phase, the pollution prevention message is more important than ever. Industry shows us in case after case that significant reductions are feasible with minimal capital outlays. Where more significant investments are being made in clean/efficient pollution prevention technologies, they generally lead to improvements in efficiency and in competitiveness.

Taking these steps does not invite further government intervention into industrial processes. Rather, it involves positive collaboration between public and private sectors to achieve technological and management innovations. This is the message that is slowly being understood and that must be reinforced to a still broader audience in 1992.

First Air Toxics Rule under CAA Includes Pollution Prevention Provision

Dry cleaning facilities required to reduce PERC emissions

EPA's first proposed air toxic rule under the new Clean Air Act is aimed at reducing emissions of the air toxic perchloroethylene (also called PCE or PERC) from dry cleaning facilities. The rule would include pollution prevention provisions that require a mixture of equipment changes, operating practices, and maintenance procedures. PCE, the most widely used solvent in dry cleaning, is on the list of 189 air pollutants whose sources EPA must regulate within the next 10 years under Title III of the new Clean Air Act.

The proposal would require cleaners to control PCE emissions using either the maximum achievable control technology (MACT) or generally available control technology (GACT), depending on the size of the facility and whether it is new or existing. Mandated pollution prevention

procedures include good operation and maintenance for dry cleaning machines and auxiliary equipments such as solvent tanks. Operators would be required to conduct a weekly inspection to prevent solvent emissions from broken or improperly operating equipment. The proposal also requires periodic recordkeeping of the amount of PCE used.

Currently, the dry cleaning industry emits over 92,000 tons of PCE annually into the atmosphere. The proposed rule would reduce this emission level by 13-26 percent by 1996. The proposal will affect both industrial and commercial cleaners, likely affecting about 3,700 out of an estimated 25,200 dry cleaning facilities in the nation. For more information, contact George Smith (919-541-1549) or Fred Porter (919-541-5251).

How Many Organizations Does it Take to Change their Light Bulbs?

Green Lights Counts 150+ Partners in Sweeping Energy-Efficiency Program

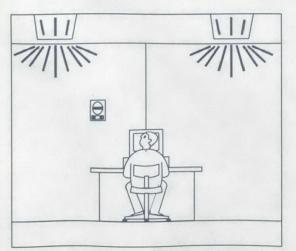
Last October, Naperville, IL became the first city to sign up for EPA's Green Lights Program, joining 6 states and more than 150 corporations in making a commitment to energy-efficient lighting. By joining the program, Naperville has committed to assess and upgrade its lighting where applicable with energy-efficient lighting technologies over 787,000 square feet of space.

Green Lights participants are starting to report significant cost savings and progress in their assessments and upgrades. Amtech Lighting Services, a Green Lights Ally, recently helped out in Bank of America's lighting upgrade of more than 400 of its facilities in California. Originally planned as project involving delamping and installing reflectors only, the scope of the proejct widened to include custom-made reflectors, electronic ballasts, and compact fluorescent conversion units. Energy savings are projected at over \$1 million annually. The pollution prevention results of such energy savings mean annual reductions of 16 million pounds of CO_2 emissions, 117,000 pounds of SO_2 , and 62,000 pounds of nitrous oxides.

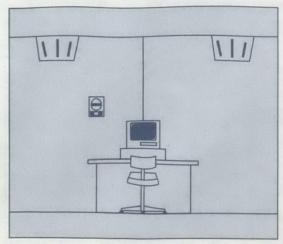
EPA Support

Green Lights Partners and Allies receive a wide range of support services. Currently available resources include: the Green Lights video for internal educational purposes and marketing purposes; a series of two-day workshops scheduled around the coutnry through June 1992; a 400-page Lighting Upgrade Manual that guides users in each step in the lighting upgrade process; Light Briefs, a series of short technical fact sheets on lighting technology, available in camera-ready form for reproduction and distribution; a monthly newsletter and information packet; and a software program containing a Utility Database and Financing Registry to help Partners and Allies locate utility incentive programs and financing resources to support lighting upgrades.





Occupancy sensor automatically switches lights on



Occupancy sensor automatically switches lights off

Occupancy Sensors

Lighting makes up about 40% of commercial building energy consumption. Single-person offices are usually occupied only about 4 hours a day, but often the lights are left on as much as 24 hours a day, seven days a week. With an occupancy sensor — an automatic switch that controls lighting based on the presence or absence of people — you can save 30-50% of the energy used for lighting. Other areas where occupancy sensors work well: hallways, lounges, computer rooms, conference rooms, classrooms, storage rooms, copier rooms, warehouse aisles, and loading docks.

Emissions Trading Takes Off

Regulated entities increasingly are being given the power to determine how they can most cost effectively comply with tough new emissions standards. One example of this market-based approach to regulation is emissions trading, whereby regulators set emissions limits and allow entities to allocate among themselves who emits how much through the trading of allowances or credits.

Emissions trading is not brand new — EPA has had a policy allowing emissions trading since 1986. But the concept has come of age with the 1990 amendments to the Clean Air Act, which make emissions trading a cornerstone in EPA's plan to address acid rain. Through trading, SO₂ emissions will be reduced 40 percent below 1980 levels by the year 2000.

Buying and Selling Acid Rain?

The centerpiece of the program is an innovative market-based trading system of sulfur dioxide (SO₂) allowances. An allowance gives its holder the right to emit one ton of SO₂ per year. Each year EPA will allocate allowances to affected sources (mainly existing electric power plants) based on specified emission rates and historic fuel use.

Utilities then must either reduce their sulfur dioxide emissions to the level of the allowances they hold, or obtain additional allowances to cover their

Got \$1500 to Spare?

Under a rule issued on December 5, 1991, any private citizen, broker, utility or environmental group may acquire EPA's SO_2 allowances through auction or direct sale. The allowances will be sold, starting in 1993, for a fixed price of \$1,500 apiece on a first-come, first-serve basis. However, auctions and direct sales will cover less than 3 percent of the total allowances available. The other 97% are reserved for the 110 existing electric utilities in Phase I and another 700 smaller plants in Phase II.

emissions — they may not emit more sulfur dioxide than is covered by their allowances. If utilities reduce their emissions below the number of allowances they hold, they can sell the excess allowances for a profit, trade them within their systems, or bank them for future use. The trading system is a key part of a two-phased reduction in annual SO, emissions of 10 million tons by the year 2000.

The idea behind the EPA allowance system is "to harness the creativity and incentives of the free

market to achieve significant reductions of acid-rain causing emissions at the lowest possible cost," according to Eileen Claussen, director of EPA's Office of Atmospheric and Indoor Air Programs. Seizing the profit-making potential that the new acid rain system offers, the Chicago Board of Trade is pursuing the establishment of a futures trading market that allows entities and brokers to purchase and trade sulfur dioxide allowances.

Charitable Emissions Contributions?

Recent deals made under other programs show that the emissions trading concept does work. In 1991, Procter & Gamble sold credits of nitrous oxides, carbon monoxide and hydrocarbons from its Long Beach, CA plant to the nearby March Air Force Base. Also in 1991, P&G's Paper Products Co. in Oxnard, CA, purchased reactive organic compounds from 3M Data Storage Products in Camarillo, CA. 3M donated the \$1.5 million in proceeds from the sale to the Ventura County Community Foundation, in California, to establish a fund to improve the county's air quality.

The advantages of emissions trading include the flexibility it provides to meet emissions ceilings in the way that best fits a company's operations. That flexibility can result in cost savings; the



Ventura County Supervisor Maggie Erickson Kildee announcing the creation of a \$1.5 million clean-air fund with the proceeds of an emissions transaction from 3M Camarillo to P&G Paper Products in Oxnard. Also: Dick Baldwin, Ventura County Air Pollution Control Dist., Laura McAvoy, Ventura County Comm. Fdn., and Kevin Rubey, 3M Camarillo.

limited amount of trading that companies such as Armco, Du Pont, USX and 3M did in the past "resulted in more than \$4 billion in savings in control costs with no adverse effect on air quality," according to Project '88, a public policy study sponsored by Sen. Timothy Wirth and the late Sen. John Heinz.

Emissions trading also supports new technology, according to Thomas Zosel, manager of pollution prevention programs for 3M. "New technology cannot be guaranteed," Zosel says. "If new technology doesn't perform as we expect it will, without trading, we may have to rip it out. With trading, we can keep it, improve on it while it is in operation, and buy credits to make up the difference between the technology and what the regulations require."

A disadvantage of emissions trading? The concept is unpopular with some of the public, including environmentalists who view it as an inappropriate way for industry to turn a profit. Zosel believes that much of the criticism comes from a misunderstanding of how trading works. "People are not aware that when you make trades, it's never 1 to 1. If you continue to trade, you continue to have reductions." For example, under 3M's recent trade with P&G, Ventura County rules required that P&G purchase 78 tons of emissions to get the 50 tons it needed for its plant expansion, thereby permanently eliminating 28 tons.

Environmental Education

Conference Emphasizes Partnerships

A sense of interest and excitement about environmental education marked a November 1991 conference, "Building a Shared Vision for Environmental Education," which brought together more than 350 participants for three days in Washington, D.C. Speakers stressed that forming partnerships among government, school systems, environmental groups, and industry will be the most effective route to strengthening environmental education in the 1990s. The value of investing resources in training teachers, each one of whom in turn can reach many students, was another recurring theme.

Former Wisconsin senator Gaylord Nelson, now counselor to the Wilderness Society, won a standing ovation with a stirring address that called for "nurturing a conservation generation." EPA Administrator William K. Reilly addressed the conference by video, outlining the agency's educational priorities. Other speakers included Deputy Administrator F.

Henry Habicht, Interior Secretary Manuel Lujan, Deputy Secretary of Education David Kearns, and Bill Kurtis, host of the acclaimed PBS series "The New Explorers."

Conference participants divided into 12 working groups representing different sectors of environmental education to discuss priorities for their fields, and their conclusions were presented to the conference at large. The working group reports may be used as the basis for future regional workshops, and may also be incorporated into the report to Congress of the recently appointed Environmental Education Advisory Council.

Participants included representatives of federal, state, and local governments, schools, environmental groups, industry, and EPA. The conference was sponsored by EPA in cooperation with the Federal Task Force on Environmental Education.

Resources

Earth Notes

EPA's Office of Environmental Education (OEE) recently launched Earth Notes, a quarterly publication for elementary school educators. The periodical features first-hand accounts of environmental education in the classroom, as well as information on EPA resources. To be put on the mailing list, write to Earth Notes at Mail Code A-107, U.S. EPA, 401 M Street SW, Washington, DC 20460.

Environmental Education Grants

EPA's Office of Environmental Education is soliciting grant proposals for environmental education programs in state and local governments, schools, and non-profit organizations. Emphasis will be placed on projects that develop and disseminate environmental education curricula, involve field activities, provide training in specific geographic areas, and encourage cooperation on environmental issues between the U.S. and Canada or Mexico. Applications will be considered for grants of up to \$250,000. However, 25 percent of the \$2.5 million in funds must be allocated to grants of \$5,000 or less. For more information, call (703) 847-3036.

OEE is also reviewing 10 proposals from universities and non-profit institutions to operate a \$1.5 million training and education program for environmental education professionals. An EPA panel chose the 10 from among 80 pre-proposals that it screened last fall. An award is expected to be made in the spring.

Resource Listing Available

EPA has compiled an annotated compendium of educational materials on environmental issues. Entries are diverse, with materials described ranging from workbooks to curricu-

lum plans, posters and pamphlets, newsletters, films, and computer software. For more information, contact the U.S. EPA/OEE, Mail Code A-107, 401 M St. SW, Washington, DC 20460.

Computerized Clearinghouse Expected Soon

The Office of Environmental Education is developing a clearinghouse of federal government materials on environmental education. The clearinghouse will be available in the form of a user-friendly database accessible by modem. An interagency database of more than 2600 educational items relating to pollution prevention, compiled by the Pollution Prevention Environmental Education Task Force, is already available on the Pollution Prevention Information Clearinghouse and was demonstrated at the "Building a Shared Vision" conference (see article above). The full database is expected to be available by the fall of 1992. For more information, call Michael Torrusio at 202-260-2053.

H.K. Means Healthy Kids in Kansas

A cartoon squirrel named H.K. is the star of a new environmental awareness campaign for young children in Kansas, called "Healthy Kansans, Healthy Kids." The mascot is featured in public service announcements, a coloring calendar, and a teachers' activity guide with 12 hands-on activities for children from kindergarten through fourth grade.

Through the games, nature walks, and other activities in the guide, children are encouraged to develop ways to reuse disposables, conserve energy, identify household toxic substances, and protect the environment in other ways. The materials are available from the Kansas Dept. of Health and Environment, Office of Health and Environmental Education, Rm 1051, 900 SW Jackson, Topeka, KS 66612-1290.

Kids for Saving Earth

A Pint-Size Dream Grows 350,000 Strong



What environmental group was founded in 1990, charges no dues, and has more than 350,000 members worldwide? Here's a hint: Most members cannot qualify for a driver's license.

The group is Kids for Saving Earth. An 11-year-old boy named Clinton Hill started KSE as an environmental club in his Minnesota

6th-grade class in 1988, and he dreamed of involving kids everywhere. But in December of that year, he was discovered to have a brain tumor, and he died 11 months later. His parents resolved to use their son's artwork and writings about KSE to make his dream of a worldwide group come true. The Hills found a generous corporate sponsor in Target, a Minnesota-based discount store chain, and KSE was officially launched on Earth Day 1990.

Today, KSE is comprised of more than 10,000 small clubs in the U.S., Canada, and around the world. Clubs are based mostly in schools, but also in scout troops and other youth groups, each with a teen or adult advisor. Clubs generally meet twice a month after school, at recess, or on weekends. Most members are between 7 and 12 years old, but there is no age limit. Every member receives a colorful quarterly newsletter filled with background information about the environment and activity ideas from other members.

KSE members participate in national efforts, such as writing letters to fast-food companies urging them not to use foam packaging, as well as local projects, including environmental fairs, tree-planting, cleanup days, and much more. KSE groups have found hundreds of creative ways to raise environmental consciousness in their families and communities, with remarkable success.

"KSE empowers these kids," says Jeri Layton of St. Louis, Mo., a KSE national advisor. "They learn that they don't have to be grown up to do something about the environment."

Members need not "grow out of" KSE, Layton says. Teens are encouraged to form clubs for more advanced activities, and can avoid the "kids" stigma by not using the KSE name. "They're tomorrow's consumers; they're tomorrow's voters. If it becomes part of their lifestyle, this is what's going to save the environment," she says.

Adults continually marvel at the childrens' activism. "The kids don't look like the spoiled generation that some adults think they are," Layton says. One chastened but proud father told Layton that at his 7th-grade son's encouragement, the family collected a carload of recyclables and brought them to a local center, where they received 60 cents in compensation.

"All that for only 60 cents," the disappointed father remarked.

"Dad," his son replied, "we're not in this for the money."

KSE can be reached by writing P.O. Box 47247, Plymouth, MN 55447. Tel: 612-525-0002.

EPA Administrator's Awards

EPA invites all sectors of society to participate in the EPA Administrator's Awards Program. EPA Administrator William K. Reilly established this annual national program to recognize excellence in efforts to work toward a cleaner environment. The program will highlight different areas of progress each year. This year, the awards will showcase achievements in pollution prevention. Award-winning projects will serve as national models. Awards will be announced by the Administrator in April during Earth Day celebrations. The deadline for applications is Feb. 13, 1992. Contact your EPA Regional Office:

U.S. EPA - Region I Frank McIntyre JFK Federal Building/RPM Boston, MA 02203 617-565-9026 CT, MA, ME, NH, RI, VT

U.S. EPA - Region II Teresa Ippolito (OEP) 26 Federal Plaza, Room 905 New York, NY 10278 212-264-2980 NJ, NY, PR, VI

U.S. EPA - Region III Danielle Algazi (3ES43) 841 Chestnut Building Philadelphia, PA 19107 215-597-1168 DE, MD, PA, VA, WV, DC

U.S. EPA - Region IV Carol Monell 345 Courtland St., NE Atlanta, GA 30365 404-347-7109 AL, FL, GA, KY, MS, NC, SC, TN

U.S. EPA - Region V Corinne Kruse (5PI-19J) 77 W. Jackson Chicago, IL 60604 312-886-7935 IL, IN, MI, MN, OH, WI U.S. EPA - Region VI Laura Townsend (6-M-PP) First Interstate Bank Twr 1445 Ross Avenue, Ste 1200 Dallas, TX 75202-2733 214-655-6525 AR, LA, NM, OK, TX

U.S. EPA - Region VII Alan Wehmeyer 726 Minnesota Avenue Kansas City, KS 66101 913-551-7050 IO, KS, MO, NE

U.S. EPA - Region VIII Sharon Childs (8PM-SIPO) 999 18th Street, Suite 500 Denver, CO 80202-2405 303-293-1471 CO, MT, ND, SD, UT, WY

U.S. EPA - Region IX
Jessie Baskir (H-1-B)
75 Hawthorne Street
San Francisco, CA 94105-3901
415-744-2189
AZ, CA, HI, NV, Amer. Samoa,
Guam, Trust Terr. of the Pacific

U.S. EPA - Region X Carolyn Gangmark 1200 Sixth Avenue Seattle, WA 98101 206-553-4072 AK, ID, OR, WA



Case Studies from the Pollution Prevention Research Branch

Waste Minimization Opportunity Assessment at an Optical Fabrication Laboratory

The Risk Reduction Engineering Laboratory (RREL) of the EPA's Office of Research and Development is supporting the Waste Reduction Evaluations at Federal Sites (WREAFS) Program which focuses on waste minimization research opportunities and technical assessments at federal facilities.

One of the sites chosen for performance of a waste minimization opportunity assessment under the WREAFS Program is the Fitzsimmons Army Medical Center Optical Fabrication Laboratory (FAMC/OFL) in Denver, Colorado.

Glass lens fabrication operations at the OFL generate three RCRA hazardous wastes: (1) waste lead-bearing lens blocking alloy (D008) particulates, which are reclaimed and recycled at the OFL, to the extent possible; (2) alkaline washwater from ground and polished lens cleaning and deblocking operations (D002), which is discharged to the wastewater treatment plant and ultimately used on the FAMC grounds for irrigation; and (3) spent Stoddard solvent from the tool cleaning operations (D001) which is recycled off-site. The operations also generate one nonhazardous waste (ground glass fines from lens grinding and polishing operations) which are collected from the present on-site grinding coolant filtration operations and disposed of at a

local sanitary landfill.

Results of the assessment conducted at the OFL identified three waste minimization opportunities involving materials in use at the laboratory. These options are summarized below. Of the three waste-related opportunities identified in the assessment, two represent waste reduction for RCRA hazardous wastes, while the remaining option represents an opportunity to reduce or eliminate nonhazardous waste. None of these options represents substantial capital outlays or appreciable operating cost savings.

Waste Minimization Opportunities

Waste Alkaline Washwater:

Alkaline washwater from the glass lens cleaning/deblocking operation is currently discharged from the OFL after passing through a trap to collect large particulates of the lead-bearing lens blocking alloy. This wastewater (still containing dissolved lead and submicron lead particulates) is discharged periodically from the glass lens washing machines at the rate of approximately 200 gal/mo, at a pH of about 13 to 14, to the FAMC on-site central water treatment facility and ultimately used on the FAMC grounds for irrigation. It is proposed that this be avoided in one of two ways:

- (1) Use of a source reduction technique—the substitution of a non-lead-bearing blocking alloy.
- (2) Use of a recycling technique—introducing a cartridge filter in the line leaving the trap from the lens washing/deblocking operation in order to catch the submicron-size alloy particulates. This technique could recover up to 500 lb/yr of particulate material that would ultimately be recycled to the lens blocking operation.

Glass Fines from the Glass Lens Grinding Operation:

The OFL currently generates about 37.5 ton/yr of a mixture of waste glass fines and water from the lens grinding operation. This material is not a hazardous waste under the RCRA definition. The OFL currently sends this waste to a local landfill, thereby incurring both the transportation and landfilling costs. A potential use for this material is as feedstock in glass or ceramic tile production by a local facility; if a facility could be identified that would use the OFL waste material, land disposal costs would be eliminated.

The project summary entitled: "Waste Minimization Opportunity Assessment: Optical Fabrication Laboratory, Fitzsimmons Army Medical Center, Denver, Colorado" is available by contacting U.S. EPA/RREL, Pollution Prevention Research Branch (MS-466), 26 W. Martin Luther King Drive, Cincinnati, OH 45268.

Enforcement/Prevention Settlement

In EPA Region 1, pollution prevention is one of the results of a recent enforcement case brought under Section 313 of the Emergency Planning and Community Right-to-Know Act. The firm involved is Balzers, a manufacturer of high technology vacuum equipment for thin film processing and cryogenic equipment for laboratory applications, located in Hudson, NH. The settlement contains an agreement for the company to undertake a \$50,000 supplemental environmental project, involving the installation of semi-aqueous cleaning units and the conversion of existing ultrasonic finishing systems used in the turbo pump repair process from freon-based to an agitation/filtration system utilizing a biodegradable cleaning agent. The project will permanently reduce the use of freon-113 by at least 66% at the company's New Hampshire and California facilities.

New!

Pollution Prevention Advisor is a quarterly newsletter for the nuclear weapons complex published by DOE's Office of Defense Programs. The 8-page newsletter highlights strategies and technologies for pollution prevention, covers workshops and conferences, and reports on progress at DOE installations. For subscriptions, contact James F. Betschart at 615-435-3415.

In the States

Delaware Launches Green Industries Initiative

The Delaware Development Office (DDO) and the Department of Natural Resources and Environmental Control (DNREC) are collaborating on a Green Industries Initiative that promotes source reduction and the use of recycled materials within Delaware's manufacturing sector.

Businesses may be eligible for the Green Industries program if they fit into one of the following four categories:

- Companies whose raw materials and/or components of production are composed of at least 25% recycled materials or materials removed from the municipal waste stream.
- Companies engaged in the processing and/or recycling of materials removed from the municipal waste stream for resale to manufacturers as a raw material or component of production.
- Companies engaged in the collection and distribution of recycled materials which have been generated in Delaware.
- Companies that voluntarily reduce waste generation in their manufacturing processes by 20% for chemicals reported under the Toxics Release Inventory or 50% for other wastes.

A combination of technical and financial assistance will be offered to industries participating in the program.

Technical assistance includes:

- · Site selection assistance;
- Employee education, recruitment, and training assistance;
- Expedited environmental permit reviews;
- Voluntary environmental compliance audits;
- Assistance with local government review and approvals;

- Marketing assistance for recycled materials through the Northeast Industrial Waste Exchange and Delaware specific contacts;
- Technical information and waste reduction case histories available through Delaware's Pollution Prevention Clearinghouse; and
- Advocacy for other state and local approvals.

Economic assistance will be available in two forms: tax incentives and financing programs. The tax incentive programs under the Green Industries Initiative are not in place as yet. DDO and DNREC will seek a modification of the Blue Collar Jobs Act of 1984 in the 1992 Delaware legislative session to expand the Act to include additional benefits for participating industries. Proposed at this time are tax credits based on quantities of waste reduction, capital investment and/or the creation of jobs within Delaware's manufacturing sector. Tax credits and gross receipts tax exemptions will be made available to manufacturers that voluntarily reduce process waste generation, eligible industries that establish new facilities or expand existing operations and those that locate within targeted census tracts.

For business financing needs, DDO will make available all applicable financing programs. Delaware small businesses (100 or fewer employees) which are eligible for program benefits will, as part of the Small Business Revolving Line of Credit and Enhancement Fund, be offered financing for fixed assets as well as working capital at reduced interest rates. This small business financing program is currently in place and would allow a direct loan from the State of up to 25% of the total loan package, not to exceed \$100,000.

For further information on the Green Industries Initiative, contact Philip J. Cherry at 302-739-5071 or Andrea K. Farrell at 302-739-3822.

Noteworthy Items

The first U.S. Government Buy Recycled Products Trade Fair and Showcase will be held June 29-30 in Washington D.C. Special sessions will join suppliers with procurement people and cover how to sell recycled content products to government agencies. Sponsored by DOD, EPA, GSA, CEQ, and OMB. Contact: Holt, Ross & Yulish, Inc., 908-287-0074.

A Recycled Products Information Clearinghouse (RPIC) has been set up by the Center for Earth Resource Management Applications, Inc., as an outgrowth of EPA's Procurement Guidelines Hotline and with support from EPA. RPIC is available for answering questions about EPA guidelines for purchasing recycled products and will provide information on other recycled products, including product performance, definitions, standards, and specifications. Contact: Dana Arnold, 703-750-1158.

The Southwest Public Recycling Association (SPRA) is a regional effort created in January 1991 by mayors and staff from 20 southwestern cities in Arizona, Colorado, Nevada, New Mexico, and Utah. The association's goal is to improve existing markets for recyclable materials, attract new recycling industries to the southwest and increase the "buy recycled" purchasing power of the public sector. SPRA is partially funded by a grant from EPA Regions 8 and 9. For more information, contact SPRA at 602-791-4069.

Calendar

Title	Sponsor	Date/Location	Contact
BioCycle West Coast Conference	BioCycle Magazine	March 2-4 San Francisco, CA	215-967-4135
Globe '92	Government of	March 16-20	Tel: 604-666-8020
	Canada	Vancouver, BC	Fax: 604-666-8123
Spring Conference	Investment Recovery	April 7-9	J.J. Wherry
	Association	San Antonio, TX	216-899-0010
33/50 Program, Regional	U.S. EPA	April 9	Rita Jones, PEER
Workshop Series		Edison, NJ	513-252-1222
22nd Annual BioCycle National Conference	BioCycle Magazine	May 13-15 St. Louis, MO	215-967-4135
RECYCLINGPLAS, Plastics	Plastics Institute of	May 19-21	Irene Sacks
Recycling Technology	America	Arlington, VA	201-808-5950
International Composting	U.S. EPA, Ohio State	May 27-29	Sarah Seiling
Research Symposium	University, others	Columbus, OH	614-292-8571
Earth Summit—U.N. Conference on Environment and Development	United Nations	June 1-12 Rio de Janeiro, Brazil	212-963-5959
CFC & Halon Recycling Program;	CMC	June 2-4	Bob Mignarri
World Recycling Conference & Expo	Recycling Today	Rosemont, IL	203-852-0500
Second U.S. Conference on	U.S. EPA	June 3-5	Tel: 202-260-6263
Municipal Solid Waste Management		Arlington, VA	Fax: 202-260-4196
Pollution Prevention in the	U.S. EPA	June 3-6	JT&A, Inc.
Manufacture of Pulp and Paper		Washington, DC	202-833-3380
11th Annual New England	N.H. Resource Recovery	June 9-11	NHRRA
Resource Recovery C&E	Association	Cromwell, CT	603-224-6996
85th Annual Meeting & Exhibition	Air & Waste Management	June 19-22	Debbie Reichert
	Assn.	Kansas City, MO	412-232-3444

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