



# PREVENTION

## *quarterly*



AUTUMN 1999



### Ohio EPA and Ohio Hospital Association Sign Pollution Prevention Agreement

Ohio EPA will work with OHA: The Association for Hospitals and Health Systems to reduce the generation of hospital waste, including mercury, which hospitals commonly have in thermometers, blood pressure monitors and other equipment. A formal agreement between the two organizations was signed as part of Ohio Pollution Prevention Week, September 20-24, 1999. The Ohio Healthy Hospitals Pollution Prevention Initiative is based on a federal agreement signed by U.S. EPA and the American Hospital Association. The goal of the program is to provide tools to support hospitals' continued efforts to minimize the production of pollutants and reduce the amount of waste generated.

As part of the agreement, Ohio EPA and the OHA agree to create and implement programs to:



- virtually eliminate mercury-containing waste from the health care industry's waste stream;
- reduce the total volume of waste created by the industry;
- educate health care professionals on pollution prevention activities they can implement;
- reduce the amount of chemicals used by the industry; and
- monitor the industry's progress in implementing pollution prevention initiatives over time.

For more information, contact Ellen Miller, Ohio EPA at 614-644-2817, or Rick Sites, OHA at 614-221-7614.

### Governor Taft Declares Pollution Prevention Week

Governor Bob Taft declared September 20-24 as Ohio Pollution Prevention Week. There are many things individuals can do to reduce the amount of waste they generate:

- Use public transportation or bikes.
- Consider the fuel efficiency of your next automobile purchase. Check the U.S. Department of Energy's fuel efficiency guide at [www.eren.doe.gov/feguide/](http://www.eren.doe.gov/feguide/).



- Buy “green” products that lower or avoid the use of toxics, conserve water and other raw materials, or are energy efficient. Buy and use long-lasting products, such as renewable batteries.

- Reduce consumption. The next time you buy something, stop and think, “Do I really need this? Is there another way to accomplish what this product does that would result in less waste?”

- Remember the 3 “R”s: “reduce, reuse and recycle.” You might even save some money in the process!

For more ideas on consumer pollution prevention, see Ohio EPA’s Web page at [www.epa.state.oh.us/opp/p2week99.html](http://www.epa.state.oh.us/opp/p2week99.html).

Ohio EPA’s Office of Pollution Prevention and Southwest District Office have worked with local governments in southwest Ohio to establish the Southwest Ohio Local Government Pollution Prevention Collaborative. The Collaborative provided free pollution prevention training for local governments on September 21, 1999 at Ohio EPA’s Southwest District Office in Dayton. This training focused on pollution prevention in risk management planning, environmentally preferable purchasing, solid waste reduction and pollution prevention in local government water programs. For more information, call the Office of Pollution Prevention at 614-644-3469.

### Look for the Energy Star on Compact Fluorescent Lights

Energy-efficient compact fluorescent light bulbs will now carry the Energy Star label.

The bulbs have a minimum lifetime of 6,000 hours, do not need to warm up, and come in a wide range of styles, shapes, and wattages. They are best used in locations where the light is left on for long periods of time, such as an entryway, living room, or kitchen. For each incandescent bulb replaced by an Energy Star light bulb, you’ll save \$25 to \$45 over the life of the bulb.



For more information, see the U.S. Department of Energy (DOE) press release at <http://home.doe.gov/news/releases99/augpr/pr99217.htm>.

The Energy Star program is run jointly by DOE and the U.S. Environmental Protection Agency. For more information about Energy Star compact fluorescent light bulbs, including a list of suppliers, see [www.energystar.gov/products/cflbulbs.html](http://www.energystar.gov/products/cflbulbs.html).

### U.S. EPA’s Final EPP Guidance Published

U.S. EPA has just released the final guidance on Environmentally Preferable Purchasing, a document that will greatly assist executive agencies mandated to adopt environmentally preferable purchasing under Executive Order 13101 — *Greening the Government through Waste Prevention, Recycling, and Federal Acquisition*.

The Final Guidance is centered around five guiding principles:

- Include environmental considerations as part of the normal purchasing process;
- Emphasize pollution prevention early in the purchasing process;
- Examine multiple environmental attributes throughout a product's life cycle;
- Compare environmental impacts when selecting products; and
- Make purchasing decisions based on accurate and meaningful information about environmental performance of products and services.

The final guidance also provides suggested steps for executive agency implementation, a list of available resources to facilitate EPP, and a set of appendices, including a glossary of terms and a list, with definitions, of environmental attributes. The final guidance is primarily intended for federal government use. However, state and local government purchasers,

*(Continued on pg.4)*

## Ohio Metalcasters on FIRST in Recycling

by Elizabeth Olenbush, Project FIRST

The Buckeye State is home to the nation's largest cluster of metalcasters, some 400 businesses whose collective output is valued at more than \$ 3.5 billion annually. Casting a wide range of products from engine blocks to faucets, aluminum wheels to golf clubs, Ohio metalcasters also generate some two million tons of byproducts annually, much of which is still sent to landfills. Despite their industrial appearance, metalcasters are some of the world's most complete recyclers.

For years, foundries have recycled millions of tons per year of scrap metal into new metal products. Less well known are the other types of materials recycled within the foundry industry's, such as sands, slags, wax, wooden pallets, packaging materials and steel drums.

Spent sand is the largest by-product stream of the metalcasting industry. Most foundries routinely recycle their sand streams within the foundry, but eventually the sand "wears out" and cannot be reused internally. Then the sand either must be discarded or reused outside of the foundry process itself.

Ohio's foundry industry is playing a leading role in a newly established recycling consortium, FIRST, which



stands for "Foundry Industry Recycling Starts Today." FIRST is an industry-sponsored consortium whose mission is to create sustainable markets for foundry industry by-products.

FIRST was formed to fill an information void in establishing reuse markets for foundry by-products. Foundries in Ohio did not have access to technical information developed in other states, and vice versa. As a result, foundry associations and individual companies have banded together to support the development of a national framework supporting local reuse activities. FIRST is engaged in projects with organizations such as the Federal Highway Administration, National Asphalt Pavement Association, and American Concrete Institute to establish technical specifications for the use of foundry materials in a variety of products and construction applications. FIRST is in the process of establishing a Web site, found at [www.foundryrecycling.org](http://www.foundryrecycling.org), on which technical specifications, performance data, state specifications and other user-related information will be posted. A central technical library is being coordinated, with abstracts published on the Web site.

Spent foundry sand is a high quality sand with uniform physical characteristics, which makes it reusable in many different ways. Examples of successful reuse projects in the FIRST database span a variety of applications, including engineered fills, road sub-bases, flowable fill, asphalt, cement manufacturing, pre-cast concrete, pipe bedding, bricks and pavers, and soils.

Ohio foundries and Ohio EPA have been industry leaders in proving the technical and economic benefits of recycling foundry by-products. The Ohio Cast Metals Association (OCMA) was instrumental in documenting the performance of spent foundry sands in flowable fill, a self-compacting type of low-strength concrete. In partnership with the Ford Motor Company's Cleveland Casting Plant and the Institute of Advanced Manufacturing Sciences, OCMA developed mix designs and performance data proving that screened foundry sands are excellent aggregates in flowable fill. As a result of work done by some of OCMA's members, the U.S. EPA is incorporating foundry sand in flowable fill into its Comprehensive Procurement Guidelines, and the Federal Highway Administration has included foundry sand in flowable fill in its "Guidelines for Waste and By-Product Materials in Pavement Construction." Flowable fills containing foundry sand are growing in popularity in the Cleveland and Cincinnati areas.

*(Continued on pg.4)*

**(FIRST, from pg. 3)**

Kurtz Bros., Inc., of Cleveland is one of the nation's pioneers in recycling of foundry sands. The company provides recycling services for more than 25 foundries in northern Ohio and neighboring regions, processing more than 300,000 tons of foundry sand annually. Kurtz Bros. has been supplying processed foundry sands for geotechnical projects and other applications in Northern Ohio. Many buildings, parking lots and other structures are built on top of foundry sand, which has excellent compaction and geotechnical properties. In fact, the Ohio Turnpike recently used tens of thousands of yards of foundry sand in a parking lot sub-base project. Based on the excellent performance of this material, more projects are scheduled for the coming year.

Kurtz Bros. also is permitted by Ohio EPA to blend processed foundry sands with other materials to create manufactured soil products that are used for topsoil and golf course construction. Extensive testing was required prior to Ohio EPA granting approval for soil blending. Ohio EPA-DSW Policy 0400.007 outlines some restrictions on the use of spent foundry sands in soils.

Second in volume to spent foundry sand, foundry slags also can be recycled as aggregates in a variety of markets. One of the largest slag recycling operations takes place in partnership between GM-Powertrain in Defiance and Napoleon-based Gerken Materials. Each month, Gerken processes and uses more than 1,000 tons of GM's slag as an aggregate in its hot mix asphalt, where the material meets Ohio Department of Transportation specifications as "granulated slag-sand."

The Ohio Cast Metals Association and its member companies are proving the value of synergy, reaching beyond the state borders to partner with other states, public and private agencies, and trade associations through FIRST. Together, the team is working to fill in the gaps on foundry recycling, reducing waste, saving energy, and providing economic benefits in the process.

For more information, please contact:

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**(Final EPP Guidance, from pg. 2)**

"green" vendors, and those in the environmental community also may find the concepts and information applicable in their environmentally preferable purchasing efforts.

The final guidance was published in the *Federal Register* Friday, August 20, 1999. You may check it out at [www.epa.gov/fedrgstr/EPAFR-CONTENTS/1999/August/Day-20/contents.htm](http://www.epa.gov/fedrgstr/EPAFR-CONTENTS/1999/August/Day-20/contents.htm). In the near future, a fact sheet and hard copies of the final guidance will be available to order by contacting the Pollution Prevention Information Clearinghouse at 202-260-1023.

More information on the Environmentally Preferable Purchasing Program and the Executive Order are available at [www.epa.gov/opptintr/epp](http://www.epa.gov/opptintr/epp).

**Industries of the Future to Involve Ohio Businesses**

"The nine most energy-intensive industries in the U.S. are working together to find ways to reduce their energy use and boost their bottom line. Throughout America, many leading companies and trade organizations within these industries have a vision of where they want to go in the next century...and how they'll get there."

U.S. Department of Energy

Some of the most important U.S. industries have a vision and a roadmap to realize highly desirable energy and environmental goals while boosting their bottom line, and Ohio companies are likely to benefit.

The Industries of the Future Program is supported by the U.S. Department of Energy (DOE), Office of Industrial Technologies (OIT). This industry-led program currently is focused on nine energy intensive industrial sectors: agriculture, aluminum, chemicals, forest products, glass, metal casting, mining, petroleum refining, and steel, all important to Ohio's economy. In each sector, DOE and major industrial trade organizations sign agreements to pursue practices and technologies that will improve energy use effectiveness, environmental performance, and economic effectiveness. Under this agreement, each industry sector developed vision statements for their industry to be reached by the year 2020, and then defined "road maps" to reach that vision through improved technology and operational practices. Then industry and the DOE began a program of joint funding of research and development to fulfill these vision/road map objectives.



program efforts in metal casting, agriculture and chemicals, with others to follow. These may include broader information program efforts, demonstration/showcasing of improved technologies, broadening the base of small-medium size businesses involved in IOF, and expanding "teaming" efforts among industry and universities in the region focused on IOF objectives. Ohio will be working with the U.S. DOE, Office of Industrial Technologies and the DOE Chicago Support Office in building an expanded IOF activity in the state.

For more information about the program, contact either Bill Manz, Ohio Department of Development (614-466-7429), Anthony Sasson, Ohio Environmental Protection Agency (614-644-2810), or Julie Nochumson, U.S. Department of Energy, Chicago Support Office (312-886-8579). Or see OIT's WWW site at [www.oit.doe.gov/industries.html](http://www.oit.doe.gov/industries.html).

### Ohio's Materials Exchange (OMEx)

A special Industries of the Future (IOF) Workshop was held for the Midwest/Chicago Department of Energy Region on August 13, 1999. Sixty participants from the eight states in the Region focused on evaluating how to help industries and R&D organizations benefit from the program. They explored the potential for improving information exchange and multi-state cooperation in the IOF program. Ohio participants included staff from Ohio EPA and the Ohio Department of Development, as well as representatives of the glass, forging, and aerospace industries, and the Wright Technology Network.

The recent workshop focused on identifying opportunities in the Midwest for improving state activities to support industry and research organization participation in the program, and to initiate efforts to build cooperative joint efforts to enhance benefits for industries in the region. A workshop report will be published in October 1999. Plans for further regional IOF activities are underway. Based on the workshop discussion, specific early activities may include joint

The OMEx waste exchange Web site (managed and operated by Ohio EPA, OPP) [www.epa.state.oh.us/opp/recyc/omex.html](http://www.epa.state.oh.us/opp/recyc/omex.html) has been updated to include all available/wanted listings with contact information (names, addresses and phone numbers for non-confidential listings) and dates the listings were received. So, if you find a non-confidential material listed that you are interested in, you can bypass the automated system by contacting the lister directly using the Web site. There are more than 440 listings. For more information about OMEx, contact Nancy Moore, Ohio Environmental Protection Agency at 614-644-2928.



## Pollution Prevention Loan Program

The Pollution Prevention Loan Program has recently undergone some changes. The program provides low-interest capital improvement loans for the construction and/or purchase of equipment to complete pollution prevention activities at non-retail facilities in Ohio with 500 or fewer employees. Now, loans are available from \$25,000 to \$150,000, at a fixed interest rate currently set at two-thirds of the prime rate. Up to 75% of a project may be financed through the pollution prevention loan program. Companies receiving the loans have up to five years to pay back the loan after receiving it. The program is jointly administered by the Ohio Environmental Protection Agency and the Ohio Department of Development. For more information contact Bill Narotski, Office of Pollution Prevention, at 614-728-1264 or check out the Web page at [www.epa.state.oh.us/opp/pplp/pplpfact.html](http://www.epa.state.oh.us/opp/pplp/pplpfact.html).

## CEC Consultants, Inc., is Energy Star Partner of the Year

Our previous issue included an article on the State of Ohio winning a Green Lights Government Partner of the Year Award. Ohio has another 1999 winner in the Energy Star Buildings Ally of the Year Award presented by the U.S. Environmental Protection Agency and the U.S. Department of Energy. CEC Consultants actively promoted the Energy Star Buildings Partnership throughout 1998. The company introduced the partnership to numerous organizations in the greater Cleveland area by hosting Energy Star Buildings breakfast seminars. CEC also placed Energy Star



**CEC Consultants, Inc.**



Buildings advertisements on Central Ohio Transit Authority busses in the Columbus area, and sent out postcards with the Energy Star Buildings message. As a result of its efforts, CEC recruited five Energy Star Buildings participants and one endorser, achieving the gold level in the 1998 Ally Challenge. In addition to its promotional efforts, CEC helped Energy Star Buildings Partners by performing energy audits and making upgrade recommendations using the Energy Star Buildings strategic approach. Further information is located at [www.epa.gov/appdstar/estar/partyear.html](http://www.epa.gov/appdstar/estar/partyear.html). The CEC Consultants Web site is located at [www.cec-consultants.com](http://www.cec-consultants.com).

## Bioremedial Parts Washers Replacing Solvent-Based Parts Washers

What's a bioremedial parts washer and why would you want one? A bioremedial parts washer is practically the same as the standard solvent-based parts washer, except the bioremedial parts washer uses a heated water-based detergent/microbe solution to remove the oils, grease and dirt from the parts instead of a solvent. The specially developed microbes will literally eat the oil and grease that is removed by the water-based detergent. If operated properly, the bio-remedial parts washers will generate little or no waste.



As part of a project to help the city of New Carlisle protect its drinking water, the city helped two businesses replace their solvent-based parts washers with bioremedial parts washers. This was part of a unique project with partial funding and technical support from the city of New Carlisle and Ohio EPA. Let's take a closer look at the two businesses who made the switch.

New Carlisle Chrysler/Plymouth/Dodge Inc. operated three solvent-based parts washers that had estimated annual operating costs of \$2,600. Harrison's BP operated one solvent-based parts washer that had an estimated annual operating cost of \$500. Both

businesses had a service agreement with a chemical supplier where the supplier would routinely remove and replace the spent solvent.

Each new bioremedial parts washer unit cost approximately \$885. The initial cost to fill the 30 gallon washer with at 10 percent detergent/microbe solution was approximately \$108. They expect to add a quart of the detergent/microbe solution each month, due to evaporation losses and drag out of the heated detergent solution. A year's worth of detergent/microbe concentrate is estimated to cost approximately \$130.

The estimated annual operating savings are \$737 and \$371 for New Carlisle Chrysler/Plymouth/Dodge and Harrison's BP respectfully. And a simple payback analysis shows a 1.3 year and a 2.7 year payback period for New Carlisle Chrysler/Plymouth/Dodge and Harrison's BP respectfully. Two other cost factors that would lengthen the payback include an increase in labor (time) to clean the parts and energy to heat the solution.

Prior to actually replacing the existing washers, the supplier (Ohio Chemical Services, Inc., Columbus) provided a test bioremedial parts washer unit to the businesses. In fact, Kelly Morgan, service manager at New Carlisle Chrysler/Plymouth/Dodge, recommends anyone considering a bioremedial parts washer to ask a supplier to provide a test unit to ensure it will clean their parts.

The test unit showed both businesses that the bioremedial parts washers will clean their parts. However, the bioremedial parts washers take longer to clean their parts. Kelly Morgan reports that they don't clean some of their parts as well, but it's good enough to meet their requirements.

Besides the potential cost savings, there are other advantages to the bioremedial parts washers over traditional parts washers. One of the big benefits is the eliminated regulatory burden of managing the solvent waste. Everett Harrison, owner of Harrison's BP, feels a lot better not having to sign the waste manifest reports anymore. Both businesses have had their bioremedial parts washers since May and have not had to dispose of any waste.

Bioremedial parts washers, like other pollution prevention opportunities, will not reduce only the amount of waste created, but also may save you money and reduce your regulatory burden. Are bioremedial parts washers rights for you? For more information contact Kirk Nofzinger, Ohio EPA Office of Pollution Prevention, at 614-644-2809.

## **New Photovoltaic Plant to Triple U.S. Capacity**

A manufacturing plant now under construction in Ohio will triple the U.S. production capability for solar photovoltaic cells when it begins production next year, according to *The Energy Daily*. The trade publication reported last week that Toledo-based Solar Cells Inc. has teamed with an investment firm to form First Solar LLC, which is building the manufacturing facility. The company claims the facility will produce enough photovoltaic cells each year to generate 100 megawatts of electricity, nearly doubling the current world production capacity of 120 megawatts. The facility will achieve its high production capacity by chemically depositing thin films of cadmium telluride onto a glass substrate to produce the photovoltaic cells. For more information on this technology, see the section on polycrystalline thin films on the DOE Photovoltaics Web site on EREN at [www.eren.doe.gov/pv/thinfilms.html](http://www.eren.doe.gov/pv/thinfilms.html).



## How You Can Make a Difference

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