



PREVENTION *quarterly*

OhioEPA

Office of
Pollution Prevention

Spring 2001

OPP WEB SITE GETS A FACE LIFT

The main Web page for the Office of Pollution Prevention, www.epa.state.oh.us/opp/oppmain.html, has recently undergone some major and hopefully positive changes. Providing information about the economic and environmental benefits of pollution prevention to Ohio businesses and consumers is a major focus for our office. The OPP site was accessed an average of 30,000 times per month last year, and provided information to more than 49,000 individuals outside of Ohio EPA. More than 700 documents covering a wide range of P2 topics are available on our site, and are continually expanded and updated. New documents covering emerging topics such as EMS/ISO 14000, Green Building, Wood Finishing, and upcoming rules such as Metal Products & Machinery Pretreatment were recently added. The Ohio Materials Exchange (OMEx) is also housed within our site; it provides continually updated lists of materials available from and wanted by businesses and industry. OMEx provides businesses with markets for waste materials, which benefits Ohio's economy and environment.

We made changes to the main page to improve our customer service and boost site use. The changes removed dependence on Java scripting to access the core of information and made information more transparent, especially for first time users. Extensive use of Java coding by hackers last year prompted many computer users to turn off Java settings. This caused features such as the pull-down site map in our previous design to be inoperable. Hopefully, the new design has streamlined access to information, while maintaining a feel for the volume and variety of information available. Take a moment and check out our new look. Comments and suggestions are encouraged; please contact Ron Smith at ron.smith@epa.state.oh.us.

Ohio EPA Office of Pollution Prevention
Helping Ohioans avoid waste by reducing its generation at the source

Office of
Pollution Prevention | **P2 Gateway**

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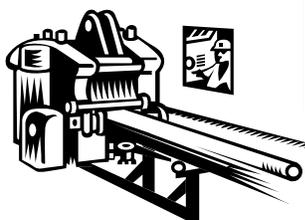
Featured Topics:

- [Pollution Prevention by Building Green^{New!}](#)
- [Woodworking & Refinishing Pollution Prevention Opportunities^{New!}](#)
- [Metal Products & Machinery Proposed Pretreatment Rule and P2^{New!}](#)
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U.S. EPA'S PROPOSED MP&M WASTEWATER PRETREATMENT RULE IS OUT FOR COMMENT

On January 3, 2001, U.S. EPA proposed a new effluent (wastewater) rule for metal products and machinery (MP&M) facilities. When finalized, this rule will establish pretreatment standards and effluent limitations for wastewater discharged into publicly-owned treatment works (POTWs). Pollution prevention (P2) is an important component of the proposed rule.



Download a copy of the proposed rule at: www.epa.gov/ost/guide/mpm/index.html

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Printed on recycled and recyclable paper.

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U.S. EPA originally proposed MP&M rule making (Phase I) on May 30, 1995. Due to comments received, U.S. EPA decided to combine Phase I and Phase II into one regulation that would cover all the industrial sectors in the MP&M industry.



The MP&M rule will cover facilities that manufacture, rebuild and maintain metal parts, products, or machines. Nationwide, U.S. EPA estimates there are approximately 63,000 MP&M facilities. About 93 percent are “indirect dischargers” that send process wastewater to POTWs. Ohio is fourth among other states with the largest concentration of MP&M facilities (about 5 percent or 3,150 facilities).

Pretreatment standards (limits) have been proposed for general metals, metal finishing job shops, printed wiring boards, steel finishing and forming, and oily wastes subcategories. No pretreatment standards have been established for indirect dischargers under the non-chromium anodizing, shipbuilding dry docks and railroad line maintenance subcategories.

MP&M Important Dates	
	Proposed Rule: January 3, 2001
	Comment Period Ends: May 3, 2001
	Final Rule: December 2002
	Compliance Date for Existing Facilities: December 2005

U.S. EPA evaluated and included pollution prevention when they established pretreatment standards for MP&M facilities. In addition, U.S. EPA is considering a pollution prevention compliance alternative for the metal finishing job shop subcategory. This alternative would allow MP&M facilities in the job shops subcategory to use P2 practices in lieu of meeting the MP&M requirements. These facilities would still be required to maintain compliance with existing 40 CFR 433 and 413 requirements or local limits (whichever is more stringent).

For more details on MP&M and P2 visit the Ohio EPA Office of Pollution Prevention (OPP) MP&M Web site at www.epa.state.oh.us/opp/mpm.html or contact Jeff Lewis of OPP at jeff.lewis@epa.state.oh.us or (614) 644-2812.

REDUCING YOUR ENERGY USE? YOU MIGHT QUALIFY FOR A GOVERNOR'S AWARD FOR EXCELLENCE IN ENERGY EFFICIENCY



Guidelines for applying for the 2001 Governor's Award for Excellence in Energy Efficiency are now available. The Ohio Department of Development's Office of Energy Efficiency (OEE) runs the competitive awards program, now entering its eighth year. The purpose of the program is to honor individuals, businesses, industries and organizations that have used effective and innovative energy efficiency to improve Ohio's economic competitiveness and environment. Winners enjoy recognition for their accomplishments, positive publicity and opportunities for distinguishing themselves as leaders in energy efficiency.

Last year, six outstanding companies and organizations were identified as winners.

One winning company was the HI TecMetal Group (HTG), a Cleveland-based company. To better serve its customers, HTG explored an alternative to the electric furnace. In partnership with WS Thermal Process

Technology Inc., HTG compared the production rates, capital, operating and energy costs of two similarly designed furnaces, one electric and the other gas with CRT (Composite Radiant Tubes) burners. HTG determined that annual energy costs for the CRT gas burner technology are \$17,000 less than the electric furnace.

The Ohio Bureau of Workers' Compensation (OBWC) won an award for making the William Green building more energy efficient. OBWC hired Johnson Controls Inc., which implemented numerous measures and systems that significantly reduced energy and saved OBWC at least \$1.62 million over 10 years. The electricity saved translates into environmental benefits due to decreased emissions. Each year, emissions avoided include approximately 41,453 pounds of nitrogen oxide, 11.4 million pounds of carbon dioxide and 111,121 pounds of sulfur dioxide.

Another winner was the University of Cincinnati (UC), which installed a specially designed 2.8 million gallon underground chilled-water storage tank, and replaced two electrical chillers with two natural gas-fueled, engine-driven chillers to decrease peak load use.

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Energy cost savings for the first year was more than \$562,000, and is expected to be similar each year. Due to this project, the emissions of approximately 70,700 of nitrogen oxide, 19.4 million pounds of carbon dioxide and 180,000 pounds of sulfur dioxide are avoided each year.

Last year's winners also included:

🏆 City of Lakewood and The Brewer-Garrett Co. for renovation of the Winterhust Ice Rink;

🏆 Neighborhood Housing Services of Toledo Inc. for Ohio's first Energy Star® modular home; and
 🏆 Stark Metropolitan Housing Authority for an energy conservation appliance replacement program.

For more information, please contact Stjepan Vlahovich at (614) 466-0545 or svlahovich@odod.state.oh.us. You can learn more about last year's winners and print out guidelines by visiting OEE's Web site at www.odod.state.oh.us/cdd/oe and clicking on the Governor's Awards symbol.

ASSESSMENT HELPS ALUMINUM CASTING PLANT KEY IN TO POTENTIAL IMPROVEMENTS

One year ago, The Office of Industrial Technologies (OIT) Best Practices initiative launched its Plant-Wide Energy Efficiency Opportunity Assessments program. The idea was to encourage industrial facilities to investigate the possibilities throughout the plant; to identify potential energy savings, process improvements, and opportunities for new technologies. With cost-shared funding and technical assistance from OIT, such assessments could facilitate the Best Practices process for industrial plants.

Since the program began in September 1999, OIT has held three solicitations rounds for Request for Proposals and has given awards to 13 companies to conduct plant-wide assessments. These companies represent industries within the scope of OIT's Industries of the Future initiative, such as aluminum, chemicals, glass, forest products, and petroleum refining. One award recipient, aluminum casting manufacturer AMCAST of Wapakoneta, Ohio, is one of the original seven companies to receive cost-shared funding from OIT. AMCAST recently completed its assessment, and moved quickly to implement improvements that could yield impressive savings of \$3.6 million annually.

AMCAST's primary products are aluminum permanent-mold castings for the automotive industry, but the company also serves construction and other industrial sectors. The company employs 300 people at their plant, and processes 15-20 million pounds of aluminum annually at the Wapakoneta site. To make its products, AMCAST begins with aluminum ingots, which are melted in natural-gas-fired reverb furnaces. Melted aluminum is transferred to hold furnaces adjacent to each low-pressure permanent mold machine via electrically heated ladles. After casting, flash and scrap parts are sent back to a jet-melt furnace. Cast products are trimmed, inspected, heat-treated, and aged in ovens. Primary waste streams include aluminum dross, recyclable aluminum flash, deburring material, metal shavings, and cooling wastes.

AMCAST is the first to use the low-pressure, permanent mold casting process to produce high-volume, aluminum suspension components for the auto industry. The company set out to identify ways to cost-effectively reduce waste, energy, and operating costs, and the plant-wide assessment award supported this effort. The company teamed with the University of Dayton Energy Efficiency Office and the Edison Materials Technology Center of Dayton, Ohio; Midwest Building Diagnostics (formerly Miami Valley Diagnostics)

of Xenia, Ohio; and Capital Surini Group International of Rockville, Maryland. The team identified areas for improvement in AMCAST's operation, and generated ideas that could help other casting-related industries.

Sources of Savings

Based on previous assessments of metal casting facilities and the information provided by AMCAST, the assessment team noted potential savings and improvements throughout the plant in electrical, lighting, motor drive, compressed air, and process heating systems. By implementing these efficiency measures, the company expects to save \$600,000 annually.

The assessment confirmed that the most significant improvements are in the manufacturing process. Approximately 90 percent, or about \$3 million, of the total projected savings are process-related. Material modifications to process equipment (riser tubes, glow bars, and others) has reduced maintenance, scrap, and downtime, and improved product quality.

The prospect of saving \$3.6 million annually has led AMCAST to act immediately on the process improvements and other efficiency measures

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in the assessment. Of the 13 programs identified, four are underway and one is complete. For its \$1 million investment on these improvements, AMCAST anticipates payback in just three months. In addition, the company stands to reduce carbon dioxide (CO₂) emissions by 11 million pounds per year.

Opportunity Captured

For AMCAST, this plant-wide assessment highlights the synergy of process performance and its impact on overall energy and cost savings. It also demonstrates the need to consider all other factors that affect performance and costs.

AMCAST took the opportunity to explore potential improvements, and is now implementing programs to capture substantial savings. In turn, other casting companies have the opportunity to share in the findings at AMCAST, and perhaps capture similar results.

For more information see www.oit.doe.gov or e-mail lou.sousa@ee.doe.gov.

How You Can Make a Difference

You can make the publication of Prevention Quarterly more environmentally friendly. Interested? Good. E-mail the Office of Pollution Prevention at p2mail@epa.state.oh.us, and request that we send you an electronic copy, an Adobe Acrobat PDF file, or a message indicating the newest version is now available on our Web page with the appropriate Web address. It's that easy to make a difference.

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