



PREVENTION

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Hazardous Waste Inspectors Help Minimize Waste and Save Money

Part of the intent of the Resource Conservation and Recovery Act (RCRA) is pollution prevention (P2) and waste minimization. Since 1999, Ohio EPA's Division of Hazardous Waste Management (DHWM) has been integrating P2 into hazardous waste inspections by asking inspectors to make P2 suggestions for facilities to consider. In 1999, all hazardous waste inspectors were trained how to integrate P2 into their inspections. Specific sector training on industrial processes and P2 was offered to inspectors on parts washing, painting and coating and metal finishing sectors. P2 assessment training was also offered to inspectors.

In a project funded by U.S. EPA, DHWM recently measured the impact that inspectors have made when discussing P2 during inspections.



In a phone survey conducted six weeks after an inspection, inspectors found that DHWM made a positive impact by prompting P2 discussions and activities at the facilities. Although specific data on cost savings and actual waste volume reduction was usually not available, DHWM can still show progress by tracking the number of facilities that have implemented or are discussing P2 activities. Survey data also indicated that DHWM inspectors are more

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likely to have an impact at companies where there are identified violations.

The survey was designed to determine the following:

1. Whether the inspection prompted P2 discussions at the facility;
2. What prompted the discussion following the inspection;
3. Whether P2 projects had been implemented as a result of the inspection;
4. How much waste had been reduced from the P2 activity;
5. How much money was saved; and
6. Whether there were any barriers preventing P2 activities.

Survey Results

Thirty facilities were surveyed. Of those, 24 were Large Quantity Generators (LQGs), three were Small Quantity Generators (SQGs) and three were Treatment Storage Disposal (TSDs) facilities. Six



facilities (20 percent) were in full compliance at the time of the inspection, while the remaining had one or more violations. Sixteen facilities were provided written P2 information as part of the inspection.

Twenty of the 30 facilities (66 percent) responded that some P2 related activity or discussion occurred as a result of the inspection. Nine facilities (30 percent) indicated that P2 activities conducted by the facility following the inspection resulted in actual waste minimization. Twenty-five percent began recycling fluorescent bulbs, 25 percent began recycling solvent contaminated rags and another 25 percent reduced solvent use. The rest reported other P2 activities. One facility reported recycling 3.8 million pounds of waste into a saleable product. Others reported a 70 percent reduction in hazardous waste solvent use, reducing water usage by 40 percent, and recycling 270 bulbs that were previously disposed of as solid waste. None of the facilities could quantify cost savings, although they knew they had saved money.

Ten facilities reported that barriers hinder P2 activities. The most common barriers cited were lack of time and money. Other barriers included unavailable technology and lack of management support.

P2 Mini Assessment Measurement

DHWM sometimes conducts “mini” P2 assessments, where one or several waste streams are evaluated during the inspection and P2 suggestions are made to the facility. Two LQG facilities where mini assessments were completed were surveyed. During the inspection of these two facilities, 12 potential P2 opportunities were discussed. One violation was identified per facility. Both facilities indicated that P2 discussions were prompted following the inspection. One facility indicated that it was reminded to reduce waste. The other re-evaluated its processes. Both facilities implemented P2 activities following the inspection. One facility reported a savings of \$75,000- \$100,000/year from recycling a waste

stream that had been disposed of off-site as hazardous waste. Both facilities indicated no barriers to implementing P2. Both of the facilities were interested in receiving more P2 information from DHWM.

If you have questions on P2 or waste minimization, please contact your district hazardous waste inspector or Helen Miller at (614) 644-2917. The complete report submitted to U.S. EPA is available at www.epa.state.oh.us/dhwm/.



Online Pollution Prevention Training

Ohio EPA’s Office of Pollution Prevention (OPP) recently developed a P2 training Web page consisting of recent training events conducted by OPP. There are currently three topics available with more to be added.

- **Metal Finishing Pollution Prevention Training** (PowerPoint presentation)
Training from OPP and the Division of Hazardous Waste Management to help Agency staff and businesses identify pollution prevention and cost saving opportunities in metal finishing facilities.
- **Painting & Coating Pollution Prevention Training** (PowerPoint presentation)
Training from OPP and the Division of Hazardous Waste Management to help Agency staff and businesses identify pollution prevention and cost-saving opportunities in coating processes.

Online Training continued on page 4

P2 Conference in Columbus

The Great Lakes Regional Pollution Prevention (GLRPPR) 2004 Conference will be held September 23-24 at the Westin Great Southern Hotel in Columbus.

Topics will include:

- GLRPPR Services & Resources
- P2 & Environmental Security
- Department of Defense P2 Programs
- Energy Efficiency
- Green Buildings
- Pollution Prevention in Water
- Industry Case Study Successes Using P2 Grant Funds
- P2 In Transportation



GLRPPR Ohio Conference Partners include:

- Techsolve (MEP Center)
- International Truck & Engine Corporation
- Ohio Department of Development
- Wright-Patterson Air Force Base
- University of Toledo
- University of Findlay
- Ohio EPA
- Energy Industries in Ohio
- Ohio State Environmental Network
- Ohio Manufacturers Association EISC
- Ohio Materials Exchange

For more information, check the GLRPPR Web site at www.glrppr.org/columbus2004/ or e-mail Debra Jacobson at djacobso@wmrc.uiuc.edu.

Are Green Buildings Cost Effective?

A new publication is available that examines High-Performance Green Building Systems and Lifecycle Cost/Benefit Analysis. It is part of the John Hay High School Renovation Project in Cleveland. The scope of work at John Hay includes a \$23 million comprehensive renovation, and is part of the system-wide capital improvements planned for the Cleveland Municipal School District. John Hay is scheduled to reopen for classes in August.



At the request of the Cleveland Green Building Coalition, eQuest collaborated with the project design team (project architect Richard L. Bowen & Associates and engineer-of-record Roberts Consultants, Inc.) to review and redesign schematic concepts to achieve high-performance, green building goals. eQuest ran the resulting alternate design scenarios through a computer building simulation and modeling program to determine the respective impact of each alternate design on the building's projected performance over a 20-year period. Points considered included: capital investment, operations and maintenance costs, energy usage, life-cycle payback and environmental impacts. The computer modeling shows the quantitative impact of each alternate design option. Additionally, eQuest ran two high performance models, each combining the highest-performing alternate design scenarios with the HVAC systems serving as the major variable.

To download a copy of this publication, visit the Cleveland Green Building Coalition's Web site at www.clevelandgbc.org/schools/energy/JohnHayGreenBenefit032404.pdf.

Online Training continued from page 2

- **Environmental Accounting Pollution Prevention Training** (PowerPoint presentation)

Training from OPP to help Agency staff and businesses identify pollution prevention and cost-saving opportunities through accurate identification of the actual cost of wastes. This training also helps businesses to more accurately identify the actual savings earned by implementing pollution prevention projects.

For more information, visit www.epa.state.oh.us/opp/onlinetraining.html.

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