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Generator Estimates Savings of \$472,000 by Implementing P2

In 2000, Ohio EPA's Division of Hazardous Waste Management (DHWM) and OPP conducted a Pollution Prevention (P2) Assessment at Mill's Pride, a manufacturer of hardwood kitchen



cabinets located in Waverly, Ohio. The assessment focused on the company's coating application processes which generated large quantities of hazardous waste spent solvents and coatings, as well as spent rags and paint filters. A

recent follow-up call to the company revealed that several P2 projects were implemented in mid-2002 as a result of the assessment, and that the company will have realized a savings of approximately \$472,000 in the first year after making improvements. These are summarized below.

Ohio EPA identified five suggestions for improving efficiency on several of Mill's Pride's coating lines by decreasing overspray on cabinet parts that were being coated. Based on these suggestions, Mill's Pride chose to install new reciprocators on one of their coating lines. The reciprocators are a component of the spray gun that has an electric eye which "reads" the edges of the boards, automatically shutting off the spray at the edge of the board. This decreases the amount of overspray that occurs on the coating line. As a result, Mill's Pride has increased the transfer efficiency of their coating process by an estimated 35 percent, resulting in a similar reduction in the volume of waste generated by the company, as

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well as decreasing the volume of raw materials the company has to purchase for coating and cleanup. Mill's Pride is generating 33 fewer drums of hazardous waste solvents and coatings each month, estimated to be a savings of \$27,720 per year in hazardous waste disposal costs. The purchase of 35 percent less stain, top coat and sealer amount to a savings of \$432,000 per year. Total annual savings from waste disposal and raw materials as a result of installing new reciprocators is approximately \$460,000. The estimated environmental benefit of reducing coating losses is a 30 percent reduction in total annual volatile organic compound (VOC) emissions, or an annual reduction of 137 tons of VOCs.

Ohio EPA also suggested that Mill's Pride replace disposable filters used in two paint booths with reusable filters, and replace disposable rags used for cleanup with reusable rags. Together, these two waste streams resulted in the generation and

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disposal of 14 drums of hazardous waste per month. The company found an industrial launderer who recovers spent solvent from rags. Mill's Pride also purchased plastic reusable filters for one manual paint booth, although they found they were unable to apply reusable filters to the other booth due to the moisture content of their coatings. As a result of these changes in rag and filter use, and the increased life of the disposable filters due to decreased overspray, the company now manifests only five drums of hazardous paint filters per month, and has estimated that it saves \$11,600 per year in purchase and disposal costs.

Per Ohio EPA suggestions, Mill's Pride is continuing to evaluate alternative cleaning solvents. Alternative solvents could increase environmental benefits by decreasing air emissions, as well as decrease operating and disposal costs. Also Mill's Pride has formed a "continuous improvement" work team which meets once per week with the goal of looking at all production processes in order to reduce costs and waste. The team is actively working to identify further reductions in solvent losses, waste generation and other losses on the finish line.

Written by: Donna Goodman, DHWM-Southeast District Office and Debbie Hannah, Mill's Pride

Wind Powers Local Metro Park

On November 18, 2002, a new 10 kilowatt wind turbine was dedicated at Glacier Ridge Metro Park. Glacier Ridge is one of 14 parks operated by Columbus/Franklin County Metro Parks in Central Ohio. The Bergey Excel wind turbine will power park operations as well as a planned renewable energy educational center nearby. Glacier Ridge just opened in September 2002, and the energy education center won't be built until \$300,000 can be raised for the project.

The Glacier Ridge Renewable Energy System Web site provides wind turbine data including: number of days of operation, megawatt hours of power generated, cost savings based on price per kilowatt-hour, and estimated reductions in carbon dioxide generation.

For more information, visit www.glacier.webhop.info/.

To learn more about this project and other wind turbine projects, visit the Green Energy Ohio Web page at www.greenenergyohio.org or call 614-985-6131.

To learn more about the Bergey Excel wind turbines, visit the Bergey Windpower Company Web site at www.bergey.com.



Save This Date!

The 2nd Annual Green Products Expo and Training Seminar May 21, 2003

Sharonville Convention Center
11355 Chester Road
Sharonville, OH 45246

The expo is designed to increase the purchase of environmentally preferable purchasing for local governments, institutions and the private sector. The expo will include an exhibit hall as well as technical sessions designed to increase the attendees' knowledge of the various aspects of environmentally preferable purchasing. Last year's expo included more than 200 purchasing agents.

For more information, visit www.hcdoes.org/sw/Green_Expo_register.htm. Please contact Holly Christmann at (513) 946-7705 or Holly.Christmann@hamilton-co.org for registration information and additional questions.

Project Update: High-performance town homes for the Cleveland EcoVillage

The first major development of the Cleveland EcoVillage project will be the 20 town homes on W. 58th Street just north of Lorain Avenue. The developer is the Detroit Shoreway Community Development Organization. EcoCity Cleveland is providing design assistance with the support of grants from the Cleveland Foundation and the George Gund Foundation.

Construction on phase one, which includes the initial four town home units, is nearly finished. The town homes average 1,600 square feet and feature the latest green building features, including super energy efficiency, controlled ventilation, non-toxic building materials and proximity to transit. The architect is Betsy Pettit of Building Science Corporation, a national leader in the design of high-performance buildings. EcoCity Cleveland has documented the building process and continues to offer workshops so that the lessons of green building can be spread throughout the design and construction industries of Northeast Ohio.

EcoVillage Cleveland town homes at 58th Street feature:

- ☑ High density urban infill with rapid transit access
- ☑ Quality extra living space on lower level
- ☑ Detailed plans and “green” specifications
- ☑ Ducts in conditioned space
- ☑ Controlled ventilation
- ☑ Detached garages
- ☑ High performance envelope, windows and HVAC
- ☑ Advanced framing; FSC-certified lumber and finished wood products
- ☑ Pervious concrete and salvaged brick pavers
- ☑ Extensive construction waste recycling — on and off site

For more information, visit www.ecocitycleveland.org/ecologicaldesign/ecovillage/town_homes/w58townhome.html.



Cleveland EcoVillage town homes on W. 58th Street- phase one



Photovoltaic arrays on the roof of the detached garage (Graphic taken from EcoCity Cleveland's Web site at www.ecocitycleveland.org)

Cleveland Environmental Center's Green Roof

A non-profit development organization called Ohio City Near West Development Corporation (OCNW), a for-profit real estate company called Cleveland Urban Properties, and a consortium of non-profit environmental organizations are teaming up to

create the Cleveland Environmental Center (CEC). The CEC will be in a 1918 bank building on the corner of Fulton and Lorain on the near west side in Ohio City. The project aims to be the first commercial green building retrofit in Ohio, merging an historic retrofit with cutting-edge, affordable, green building principles.

On October 15, 2002, project partners began planting numerous types of plants on the roof of the CEC. The event provided a unique opportunity to view the installation of a green roof, speak to experts and to view the partially-renovated building, including the newly-installed solar array.

The 5,000-square-foot rooftop of the building has been retrofitted to include a solar array, a patio with views of downtown Cleveland and a reflective roofing membrane to reduce the heat in the summer months. The roof is a joint project of the building development partners: Cleveland Green Building Coalition, Cleveland Urban Properties and Ohio City Near West Development Corporation along with the Garland



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Company. The Garland Company is a leading manufacturer and distributor of high-performance roofing and flooring.

For more information regarding the Cleveland Environmental Center, visit the Cleveland Green Building Coalition Web site at www.clevelandgbc.org/cec/.

4 KwH solar array on roof



CEC's green roof



Graphics taken From Cleveland Green Building Coalition Web site at www.clevelandgbc.org

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