

CLOSED Loop

IAEAP Assists Facilities with Emission Inventory Questionnaire

By Kristi Peterson
Waste Reduction Specialist

The Iowa Air Emissions Assistance Program (IAEAP) at the Iowa Waste Reduction Center began assistance for the Minor Source Emission Inventory Questionnaire (MSEIQ) early this year. Only small businesses (fewer than 100 employees) are required to complete this inventory. Small businesses in eastern Iowa were contacted first by DNR to complete the inventory. Facilities were given the option of completing the inventory on their own or requesting assistance from the Iowa Waste Reduction Center's staff.

The purpose of this inventory is to gather data, in a standard format, about the sources and quantity of air pollutants emitted from small- to medium-sized facilities. Collectively, the information accumulated will assist the IDNR in continuing to manage our air resources, which includes planning pollution control programs, identifying general emission levels, and locating monitors to

ensure our air quality meets federal health standards. This inventory will also aid in characterizing public health risks and track air quality trends. Finally, the data will help Iowa and other states plan strategies to manage pollution that drifts across state boundaries and different regions of the nation.

The IAEAP staff assisted 114 facilities and completed 97 inventories for businesses. Facilities that requested assistance from the Iowa Waste Reduction Center were mailed an Emission Inventory Questionnaire Form that was used to develop the business' custom emission inventory. The IAEAP staff conducted 6 informational workshops for eastern Iowa businesses. These workshops explained the purpose of the MSEIQ and details on how the inventory was to be completed. The business representatives also had the opportunity to work with individual IAEAP staff on a one-on-one basis to discuss any questions or concerns.

After receiving the questionnaire from the facility, an IAEAP staff

member then reviewed the information, calculated emissions, completed the forms, and mailed the small business paper and diskette copies, which were then to be forwarded to the IDNR. Evaluation forms were also included in the packet. Ninety-eight percent of the companies that completed the evaluation rated the Iowa Air Emissions Assistance Program's services "excellent."

The IDNR is requiring that small businesses in the state of Iowa complete MSEIQ every three years. Facilities in central Iowa will follow in the spring of 2002, with western Iowa following in 2003. Having been the first year assisting with the MSEIQ, the Iowa Air Emissions Assistance Program staff have been able to determine improved methods of completing the inventory and are making plans to revise some of the material used to assess individual facility operations. IAEAP staff will be contacting small businesses in the central section of Iowa in the beginning of 2002. The IAEAP is funded by the Iowa DNR.

IWRC to Host Used Oil Workshop

By Sue Schauls
Waste Reduction Specialist

The Iowa Waste Reduction Center (IWRC) will host a Used Oil Workshop in Davenport on February 27, 2002 from 9:45 a.m. to 2 p.m. at the Clarion Hotel on Le Claire Street. The workshop will highlight the cost savings of using a used oil burner as well as cover the regulatory issues of used oil management. A vendor show and lunch will be provided.

Dan Solberg, Clean Burn of Iowa, will speak on determining the costs and benefits of used oil furnace installation. Solberg is the Iowa distributor of Clean Burn used oil system installation and has a knack in "right-sizing" the furnace based on either the amount of oil generated or by determining the facility heat needs.

Also speaking is Jim Olson of the Iowa Waste Reduction Center. Olson will address the regulatory requirements of a generator/burner of used oil as well as providing an overview of the steps to getting your neighbor registered as a Marketer so that you may legally continue to share your used oil. Wrapping up the session, Jim Strutzenberg, the Reznor furnace distributor through Hotsy Cleaning Systems, Inc., will discuss the operations and maintenance

of a used oil burner. Improved design and a systems approach have made used oil burners a more appealing option in waste management and cost savings than ever before.

For more information or waste management assistance please call the Iowa Waste Reduction Center at **1-800-422-3109**. Iowa Waste Reduction Center services are *free, confidential* and *non-regulatory*.



Controlled Spraying Laser Touch® in the Fiber Reinforced Plastics Industry

Reprinted with permission from MnTAP

Spray technique has a significant impact on the amount of waste generated in open mold processes. Inefficient technique results in excess material use, reduced transfer efficiency and increased amounts of overspray. Operators must be trained to maximize your operation's efficiency.

Adequate training increases the efficiency of material use. Spray performance can improve further when a properly trained spray operator is assisted by Laser Touch® technology. Mounted on a spray gun, the Laser Touch® unit has two laser beams that converge into one when the gun is properly positioned. The visual signal of both lasers coming together on a part lets operators instantly know if they have proper aim, gun-to-part distances and gun angle. Improved accuracy and consistency ensures material placement, maximizing transfer efficiency. The increased performance is seen as less waste is produced.

Fiberglass Fabricators Test Laser Touch® Effectiveness

A Minnesota Technical Assistance Program (MnTAP) intern studies the effectiveness of Laser Touch® at Fiberglass Fabricators, in Le Center, Minnesota. The company manufactures electric utility enclosures of varying sizes and shapes. The parts are rectangular and have

a depth of one foot or more. The base of each part is cut out, creating a large source of waste. Trim and overspray are the other major waste sources.

The intern tested Laser Touch® on a variety of parts in an average day's production. An initial waste assessment was performed to set baseline waste numbers. The amount of gelcoat applied to the mold was determined by weighing the mold before and after application. Filled resin, catalyst and chopped glass inputs were monitored by Technology for Manufacturers® (TFM) material monitoring device. Woven glass was weighed on a scale. Before the part was allowed to cure, the waste from the mold edge (trim waste) was removed and weighed. Overspray waste was the difference between the inputs and the cut out and trim wastes. Parts were carefully monitored throughout the process and the same spray operator performed all the tests. The application equipment used was the Magnum fluid impingement technology (FIT). Styrene emissions were not included in the analysis.

Using the CFA's Controlled Spray Program as the guide, the operator for this study was trained on proper spray technique. The Laser Touch® was installed and set for the desired gun-to-part distance. Materials used and waste generated were determined as described above.

The Results

Identical parts were represented in each trial, though spray efficiency was tested on a variety of different parts. The average waste rate was 14.5 percent before using Laser Touch® versus 10.6 percent after. The Laser Touch® device and the controlled spray training resulted in nearly a 27-percent reduction in the solid waste generated. Identical large parts averaged a 22-percent

(continued on back page)

Step Up To The Challenge

The Business Recycling Challenge will be held on April 3, 2002, from 11 a.m. until 2 p.m. at the Kirkwood Training and Outreach Services Center in Marion. The event will showcase successful waste reduction and recycling programs implemented by local businesses. The event will be sponsored by Bluestem Solid Waste Agency, Iowa Waste Exchange, East Central Iowa Council of Governments and Iowa Waste Reduction Center. **For further information, please contact Rick Meyers at (319) 398-5665.**

Laser Touch®

(continued from previous page)

decrease in waste while smaller parts averaged a 33-percent decrease.

For more information

The Laser Touch® study was conducted in 2001 by Randy Cook, MnTAP engineer, and MnTAP intern Kevin Sandstrom, a chemical engineering junior at the University of Minnesota.

MnTAP has a variety of technical assistance services available to help Minnesota Businesses implement

industry-tailored solutions that maximize resource efficiency, prevent pollution and reduce costs. MnTAP information resources are available online at www.mntap.umn.edu, or call MnTAP at (612)624-1300 or (800)247-0015 from greater Minnesota for personal assistance.

For more information about the Laser Touch®, a product of the Spray Technique Analysis and Research (STAR®) Program of the Iowa Waste Reduction Center (IWRC), contact Bill Zimmerle at 800-422-3109 or check out the IWRC web site at www.iwrc.org.

Economic justification for implementing controlled spray using Laser Touch®

ANNUAL SAVINGS in materials if scrap rate dropped from 14.5- to 10.6-percent decrease in landfill disposal costs **\$23,700**

DECREASE in landfill disposal costs **20%**

SAVINGS associated with decreased landfill costs **\$2,600**

TOTAL annual economic benefit **\$26,300**

Cost of Laser Touch®
(4 units at \$1,000 each, including installation) **\$4,000**

Payback period **2 months**

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Iowa Waste Reduction Center
Creating Tools for Small Business

SMALL BUSINESS POLLUTION PREVENTION CENTER

SPRAY TECHNIQUE ANALYSIS AND RESEARCH PROGRAM

IOWA AIR EMISSIONS ASSISTANCE PROGRAM

IOWA WASTE EXCHANGE

MOBILE OUTREACH FOR POLLUTION PREVENTION

POLLUTION PREVENTION FOR PAINTING AND COATING COMPLIANCE ENHANCEMENT

Articles in

the **CLOSED LOOP**

may be reprinted.

As a courtesy, please contact the IWRC.

Chad Gookin & Amber Thill,
Editors (800) 422-3109

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2001

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1005 Technology Parkway
Cedar Falls, IA 50613-6951

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IOWA waste exchange

winter
2001

A cooperative effort of the

- Iowa Waste Reduction Center/ University of Northern Iowa
- Iowa Department of Economic Development/Recycle Iowa
- Iowa Department of Natural Resources

- Iowa Community Colleges
- Local Councils of Government
- Iowa Solid Waste Agencies

Working Out the Kinks

By Fred Kesten

IWE Specialist
Area B

Redeker Furniture in Boone is a family-owned business that for decades has provided name-brand furniture in a large volume at competitive prices. In August 1995, the Iowa Waste



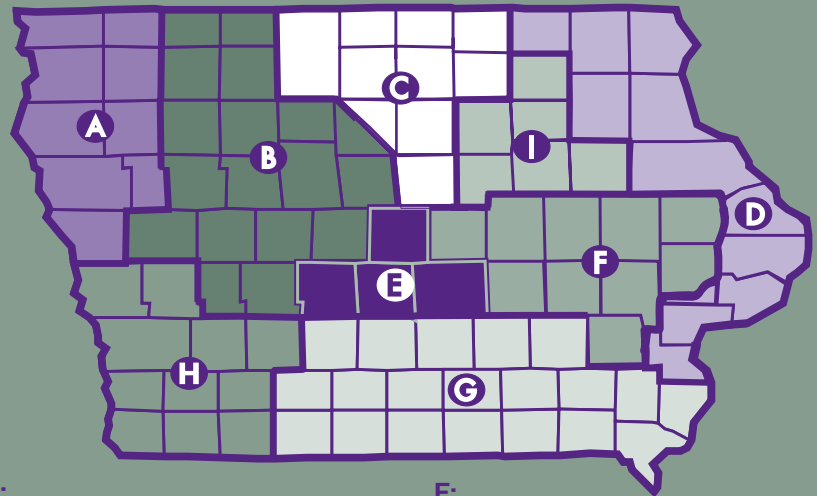
Fred Kesten

Exchange (IWE) began working with the firm to find solutions to reducing their solid waste disposal costs, which were averaging about \$1,200 per month. At that time, the store was placing six tons of cardboard, old carpet and broken pallets into a 20-cubic yard compactor every ten days.

Space limitations prevented the placement of an open-top unit large enough to handle the volume of cardboard (one ton every two days). Several regional markets offered to place a baler on site and pay for the cardboard, however, this alternative did not materialize. In 2000, after a suggestion from the Iowa Waste Exchange, the company worked out an arrangement with their hauler to pick-up the cardboard separately and take it to the Boone Activity Center.

As a result of their efforts, Redeker Furniture was a 2000 recipient of a Boone County Recycling Award for their success in recycling 15 tons of cardboard per month.

Iowa Waste Exchange Regions and Specialists



A:
PERRY NELSON
Western Iowa Tech Community
College
(712) 274-8733

B:
FRED KESTEN
Region XII Council of Governments
(712) 792-9914

C:
KATHY MILLARD
North Iowa Area Community
College
(641) 422-4379

D:
JULIE PLUMMER
Eastern Iowa Community College
District
(563) 336-3319

E:
DENNIS HAYWORTH
DMACC - Economic Development
Center
(515) 964-6346

F:
RICK MEYERS
(Linn County only)
and
JOHN KOCH
Kirkwood Training and Outreach
Services
(319) 398-5665, (319) 398-4904

G:
JIM REIMER
Indian Hills Community College
(641) 683-5269

H:
BILL PENDGRAFT
Iowa Western Community College
(712) 325-3309

I:
JODI JEANES
Iowa Northland Regional
Council of Governments
(319) 235-0311

GENERAL INFORMATION:

If you are not sure
who to contact,
call or write

IOWA WASTE REDUCTION CENTER: or
1005 Technology Parkway ♦ Cedar Falls, IA 50613-6951
800/422-3109 or 319/273-8905

RECYCLE IOWA:
200 East Grand Avenue ♦ Des Moines, IA 50309
800/532/1216

another Win-Win situation

By Rick Meyers

IWE Resource Specialist, Area E

Duane Arnold Energy Center (DAEC), located in Palo, Iowa, is Iowa's only nuclear power plant.



Rick Meyers

The power plant had made some process changes that eliminated the need for several chemicals that were still in inventory. Jerald Hogan, Environmental Specialist for DAEC, contacted Rick Meyers, the Iowa Waste Exchange Resource Specialist

for Linn County, to help find other companies that could utilize the chemicals. Meyers listed the available chemicals in the *Closed Loop* newsletter.

Shortly after publication, Meyers received a call from Paul Gassman of Collis Tool Corporation in Camanche, Iowa. Gassman thought his company could use the chemicals he saw in the *Closed Loop*. Meyers put the two companies in contact with each other, and shortly after a successful exchange was made. The exchange included the following unopened containers of chemicals:

- ❖ Three 55-gallon drums of phosphoric acid
- ❖ Four 55-gallon drums of sulfuric acid
- ❖ Six 55-gallon drums plus ten 5-gallon carrying totes of sodium hydroxide

All together, the exchange involved 765 gallons (over 9,000 pounds) of chemicals. Utilizing the Iowa Waste Exchange to find a user of the chemicals instead of paying to dispose of them saved DAEC over \$4,800 in avoided hazardous waste disposal fees. At the same time, Collis Tool Corporation obtained all of these chemicals at no cost.

12.5 Tons of Calcium Carbonate: Going Once, Going Twice...

By Bill Pendegraft

IWE Resource Specialist, Area H

In August, Myron Magwitz, Manager of the Page County Landfill, called Bill Pendegraft, IWE Area Resource Specialist for southwest Iowa, to request assistance in diverting 12.5 tons of calcium carbonate from the landfill.



Bill Pendegraft

Magwitz indicated the calcium carbonate was in 50-pound bags and in good condition. The material was being stored in a warehouse in Shenandoah at Omnium, Inc., and

was no longer needed in its manufacturing process. Omnium was expanding its warehouse and needed the space where the calcium carbonate was being stored. The landfill really didn't want the material, especially since the material was still useful.

In a cooperative effort with Perry Nelson, the IWE Specialist in Sioux City, the two matched the 12.5 tons of calcium carbonate with Nutra-Flo in the Sioux City area and diverted the material from the landfill. They saved the generator hauling and disposal costs, and saved Nutra-Flo money in purchasing costs.

The Iowa Waste Exchange is a cooperative effort of Recycle Iowa/ Iowa Department of Economic Development, the Iowa Waste Reduction Center, the Iowa Department of Natural Resources, Iowa Community Colleges, Local Councils of Government and Iowa Solid Waste Agencies. The Exchange will not determine what may constitute a hazardous substance or create a hazardous situation. The Exchange will not make judgements with respect to any legal requirements, particularly for the storage, transportation, treatment or disposal of what may be defined as hazardous substances. For information about hazardous waste reduction and/or proper disposal, call the Department of Natural Resources Waste Management Assistance Division at (800) 367-1025 or the IWRC at (800) 422-3109.