

17th Annual Governor's Pollution Prevention Awards

October 14, 2003
The Crowne Plaza
Springfield

hosted by:
The Illinois Waste Management and Research Center
a division of the Illinois Department of Natural Resources

2003 Governor's Pollution Prevention Awards

For the past 17 years, the Illinois Waste Management and Research Center (WMRC) has worked with the Illinois Governor's office to recognize outstanding pollution prevention efforts in our state. These annual awards are presented to businesses and organizations in Illinois that have successfully reduced the generation of gaseous, liquid, and solid waste. This year 22 Illinois companies and organizations are being honored for their achievements in helping the environment and the economy. Categories in the Governor's Pollution Prevention Awards include vendors/suppliers, educational institutions, service organizations, small, medium and large industries and continuous improvement.

The companies receiving awards this year reported pollution prevention projects with combined annual savings of \$13.4 million in material and disposal costs. The companies prevented nearly 127,500 tons of waste materials from being released into the environment and saved more than 40 million gallons of water from being sent to treatment facilities.

WMRC also is presenting the Innovate Illinois Award. This award is given to a company demonstrating a new pollution prevention technology innovation.

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General Electric Bloomington

Large Company

General Electric Industrial Systems in Bloomington is a manufacturer of electrical controls. The plant's pollution prevention activities included installation of Programmable Logic Controllers to reduce water usage on its Plating Line. It also installed conductivity meters to control water flow on its Electro Polish rinse lines. Over the last year the project has saved two million gallons of water and \$14,000 in operating cost. Energy conservation projects included machine and lighting timers, and minimizing the size of the backup air compressor to reduce operating cost. All projects combined have led to a saving of 733,30kwh and over \$36,000 in operating cost.



Nestlé Brands , Beverage Division Jacksonville

Large Company

Nestlé Brands, Beverage Division in Jacksonville manufactures and packages Coffee-mate®, a non-dairy coffee whitener. The plant reduced the use of hazardous materials and hazardous waste generation by 31%. The company replaced fluorescent lamps with low mercury content bulbs, which reduced energy costs and decreased disposal costs by 45%. A formulation change resulted in a better product, increased the production rate, and lowered air emissions by 30.92 tons/year, saving approximately \$76,000. The plant also began to sell non-conforming Coffee-mate® and powder recovered from the floor as animal feed, which generated approximately \$85,000 in cost recovery and landfill avoidance. Employees identified equipment and process line air leaks which resulted in energy cost savings of \$110,000 and eliminated the planned purchase of a \$500,000 air compressor.



Dynamic Manufacturing, Inc.
Melrose Park

Large Company

Dynamic Manufacturing, Inc. in Melrose Park is a family owned company that remanufactures all makes and models of transmissions and torque converters. The company has been working to utilize aqueous cleaners to replace naphtha-based solvent cleaner. Also, company officials are evaluating the use of ultrasonics in the cleaning process to extend the life of the caustic cleaner baths. During the remanufacturing process transmission fluid is circulated through the transmission while it is operated at speed. This fluid is collected, filtered, and reused in further testing. The amount of transmission fluid recycled in 2002 was 73,000 gallons, with an annual savings of \$193,000.



ITT Bell & Gossett Morton Grove

Large Company

ITT Bell & Gossett in Morton Grove is a leading manufacturer of pumps, valves & engineered systems for the HVAC market. Bell & Gossett personnel set up a coolant recycling unit, converted 75% of the company's machines over to a single long-life synthetic coolant, and installed a coolant delivery system to deliver recycled pre-mixed coolant to 60 machines running the new synthetic coolant. The company also converted the parts washer to a product that extended the cleaner life by 2-1/2 months, started a coolant maintenance program, and set up an automated collection program to monitor the system. The coolant is 100% recycled and not added to the waste stream. The waste stream has been reduced by 120,000 gallons per year, with an annual savings of \$60,000.



Mitsubishi Electric Automation, Inc. Vernon Hills

Large Company

Mitsubishi Electric Automation, Inc. in Vernon Hills is a manufacturer/provider of control devices and integrated systems for factory automation applications. The company initiated several projects designed to reduce waste generation at the facility, including a 33% reduction in office lighting electrical consumption and a similar reduction in the number of fluorescent lamps required while still achieving a 25% lighting level increase. The company also developed an aerosol chemical elimination program that resulted in a 95% reduction in the amount of aerosol-based chemicals used on site. The use of non-aerosol replacements virtually eliminated the aerosol can hazardous waste stream and reduced chemical purchase costs by approximately 55%. Additionally, the company implemented a program to recycle or reuse foam packing material.



Ondeo Nalco Company Bedford Park

Large Company



Ondeo Nalco Company in Bedford Park is a specialty chemical company that manufactures a variety of colloidal silica products used for casting of metal parts and ceramic forms. The plant installed a more efficient manufacturing technology requiring less steam, water, and wastewater treatment. The production shift saved water and natural gas, as well as reduced wastewater to the local treatment facility. Overall the savings from gas, water, and treatment chemicals is approximately \$820,000 per year. The new manufacturing process requires only one-fifth the amount of steam compared to the older system, annually saving approximately 125 million cubic feet of gas and related emissions. The process also saves approximately 28.2 million gallons of water per year and 32,000 gallons of treatment chemicals.

Maytag Herrin Laundry Products

Herrin

Large Company

Maytag Herrin Laundry Products in Herrin is a manufacturer of household washers and dryers. Recent pollution prevention efforts have focused



on source reduction of paint and cleaning solvents, water conservation and reuse, preventive maintenance, energy conservation, and solid material recycling. A highlight of these efforts was a solvent reduction project in the paint line flushing operation of the wet topcoat system. This program was a cooperative effort between the Paint Department and the Environmental Engineering office that used field test data and statistical tools to develop improved system controls. The result were:

- A reduction of 8,900 pounds or 33 percent annually of waste paint and solvent.
- Volatile Organic Compound (VOC) emissions from gun cleaner solvent were reduced 14,000 pounds or 36 drums annually.
- The project saved \$10,000 annually in waste disposal and solvent usage.

ASC Incorporated

Normal

Small Company

ASC Incorporated in Normal is the provider of convertible tops for Mitsubishi autos. The

Normal Plant has implemented several recycling and energy conservation programs to achieve cost



savings and landfill reductions. Projects include:

- Developing a core return program in which 100% of thread, welt and binding cores are recycled which provides a cost savings per core.
- Redesign of cutting dies has reduced the impact on landfill by 25% or 22 tons annually.
- End of day energy program, which reduces the cost of operation energy annually by 3%.

Five Corners Cleaners Glen Ellyn

Small Company

Five Corners Cleaners in Glen Ellyn is a third generation family-owned business. The cleaner replaced its existing equipment with state of the art technology that utilizes an environmentally preferable, biodegradable cleaning material. The new technology and process has reduced hazardous waste to zero and air emissions by 93%. The Five Corners owners maintain that the lower environmental taxation and reduction of hazardous waste removal will pay for the capital expenditure over time. They also feel that improvements in the environment are an investment in the future.



Spring Wood Middle School Hanover Park

Educational Institution

Spring Wood Middle School in Hanover Park developed a program to review the current inventory of chemicals in the science laboratories and remove any unneeded

chemicals. The school compiled a list of 120 different chemicals determined unnecessary to keep. The school worked with the Illinois Environmental Protection Agency

(IEPA) to separate, box and remove the chemicals. In addition, the school created a chemical inventory binder containing an emergency response guidebook and the Material Safety Data Sheets (MSDS) for all chemicals currently used. Students are provided with lab/chemical safety training as part of the current curriculum. In the future, chemicals will be purchased only in the quantity needed for lesson plans to reduce the waste volume.



Byron Forest Preserve District Byron

Service Organization

Byron Forest Preserve District in Byron has a mission to provide for preservation of natural



resources, to provide education about our natural/cultural heritage, and provide recreation. The Forest Preserve developed a recycling station to meet the mission of

preserving natural resources and to educate hundreds of students on recycling through the International Earthkeepers program. Materials from the recycling station are collected and sorted twice a month, and each time can include up to three tons of recyclable material like cardboard, glass, newspaper, plastic, and metals. The cost of hauling is covered through a cooperative agreement with the county Solid Waste Management Department.

Caterpillar, Inc. Technical Services Division Mossville

Continuous Improvement

Caterpillar, Inc. Technical Services Division (TSD) in Mossville provides support services to Caterpillar business units

in all aspects of product development. TSD's pollution prevention activities included the redesign of an off-



highway truck to reduce noise pollution without sacrificing machine performance or serviceability. The TSD began using "real time" analysis to measure the level of soot in engine oil, which resulted in a \$570,000 annual cost savings in addition to reductions in test time, fuel consumption, energy use and air emissions. TSD also installed adjustable speed drives, electronic sensors, and automated building controls to increase energy efficiency. Ventilation fans, cooling tower fans, and water pumps fitted with this technology conserved 5.9 million kwh and prevented the emission of more than 12 million pounds of chemicals.

Abbott Laboratories

North Chicago

Continuous Improvement

Abbott Laboratories in North Chicago is a broad-based health care company that discovers, develops, manufactures and markets health care products and services. Abbott's pollution prevention project included:

- Introducing a new package design that is 20.6% smaller, reducing over 580,000 pounds of packaging material.
- Replacing hazardous chemicals in pharmaceutical processes, which saved over \$1.1M, reduced methanol by 55,605 lbs., and reduced hazardous waste by 48,700 lbs.
- Purchasing a tub-grinding machine that recycled tree limbs and bushes for use as mulch. This mulch provided 95% of landscaping needs and resulted in an annual savings of \$36,780.



International Truck and Engine Corporation Melrose Park



Continuous Improvement

International Truck and Engine Corporation in Melrose Park has reduced the usage of solvent through the addition of self-distilling parts washers, environmentally friendly alternative cleaners, and an efficient tracking program to limit solvent issues. International has reduced waste coolant losses from the engine testing process by 90% through the installation of a closed loop cooling process. The original straight oil lapping process in the crankshaft-machining department has been replaced with a synthetic coolant that has reduced oil waste as well as increased process efficiency. Improvements in energy management were attained with the addition of departmental lighting controls and continued upgrades in equipment efficiencies. These efforts resulted in a savings of \$719,370 for 2002.



Sherwin Williams - Minwax Flora

Continuous Improvement

Sherwin Williams – Minwax in Flora is the only site in the country that manufactures Minwax wood stains, topcoats, and waxes of both the oil and water-base variety. The company implemented a wash recycling program which re-uses line flush solvent mixed with finished product that normally leaves the site as hazardous waste. Some production lines were modified to allow this solvent and finished good wash to be collected into 250-gallon totes. The material from the totes could then be reintroduced into new blends as a raw material substitute. The program generated a savings of \$183,840 and 876,840 lbs. of waste last year. There are plans to increase the tote re-use program while concurrently looking at ways to re-use the wash product to make other products.



Eaton Corporation

Lincoln

Continuous Improvement

Eaton Corporation in Lincoln is a manufacturer of electrical components for the residential and light commercial/industrial markets. The plant is ISO 14001 certified and in 2002 developed a project to eliminate cyanide from the aluminum busbar plating process. The plant has eliminated three of the four plating solutions utilizing the cyanide plating process and converted to a non-cyanide technology. The elimination of the cyanide processes will be completed by January 2004. Total elimination of the cyanide equals approximately 15,000 lbs. per year with an estimated savings of \$125,000 per year.



Amersham Health Arlington Heights

Continuous Improvement



Amersham Health in Arlington Heights is a manufacturer of radiopharmaceuticals that are used in the diagnosis of disease using various imaging techniques. The company has invested over \$1.1 million to upgrade lighting, chiller, roof insulation, HVAC and exhaust systems. These improvements coupled with conservation have reduced electrical consumption by 2,000 Megawatts, resulting in an annual savings of \$100,000. The installation of a closed-loop house vacuum system reduced water consumption by 600,000 gallons per year, with a savings of approximately \$3,000. Amersham Health substituted the use of 1,000 gallons of an environmentally hazardous fluid with a non-hazardous fluid in the chiller systems. During 2002, the company recycled approximately 82 tons of paper, cardboard, aluminum, and lead as well as donated chemicals to other companies instead of shipping them out for treatment and disposal.

Gleason Cutting Tools Corporation

Loves Park

Continuous Improvement

Gleason Cutting Tools Corporation in Loves Park is a manufacturer of gear cutting and finishing tools for industry and specialized markets. Gleason Cutting Tools Corporation has successfully achieved multiple environmental objectives in the past year, including:

- Reduced solvent usage by 5,945 gallons a year at a savings of \$19,296.
- Plating wastewater reduction by 460% in gallons per piece.
- Paper recycling program reduced solid waste by 630 cubic yards a year, which saved \$8,738.
- Sand Media usage was reduced 300% through recycling, saving \$1,140 a year.
- A formula was changed to make a once hazardous waste into a non-hazardous waste resulting in an annual savings of \$3,273.



ITT McDonnell & Miller

Chicago

Continuous Improvement

ITT McDonnell & Miller in Chicago develops steam and hot water boiler liquid level controls.



McDonnell & Miller

Recent pollution prevention projects have yielded

reductions in machining coolant, solvent-based paint, lead solder, and electricity. Recycling the machining coolant has reduced usage by 58%. Process redesign of steam vents has eliminated 88% of all paint used, 93% of total hazardous waste, and 88% in total VOC emissions. Switching certain parts to lead-free solder has reduced the volume of lead solder used by 13%. Consumption of electricity has also been reduced 13% by switching to energy efficient lamps and closer monitoring of heavy energy consumption equipment. These projects have a total annual savings of \$80,000.

Noveon, Inc.

Henry

Continuous Improvement

Noveon Inc. in Henry produces chemical additives for the rubber, plastic, lubricant, coatings and personal care markets. Noveon developed a team to improve raw material efficiencies and reduce waste, thereby improving product yield. Specifically highlighted for 2002



was optimization of t-butyl amine recovery in one of the rubber accelerator processes. Employees recognized that existing methods of controlling the vacuum valve often lead to condenser fouling, which resulted in lost production time as well as less recovery of t-butyl amine. Vacuum control was greatly improved by linking the vacuum control valve to the measured heat load on the condenser. As a result of providing greater vacuum control, t-butyl amine recovery has been improved by 5%, reducing loading to the wastewater treatment system by 185,000 pounds annually and saving \$220,000.

Crazy Horse Concrete, Inc.

New Berlin

Continuous Improvement

Crazy Horse Concrete, Inc. in New Berlin is a ready mix concrete producer. The company previously installed a system that retains all water and cement mixture, referred to as slurry. The slurry water generates heat and was therefore dumped in a retention area, allowed to solidify and removed as road building material. In 2002 a Water Chilling System was incorporated into the reclamation system to continually cool the slurry, thus allowing it to be used as the main water source for newly batched ready mix concrete. The chiller system reduced the amount of solid material by five to seven thousand tons, which in turn reduced annual removal cost by approximately \$20,000. By allowing the continual use of the slurry water as the main source of mix water, the use of city water has been reduced by approximately 1.3 million gallons with a cost savings of \$4,000 a year.



Argonne National Laboratory

Argonne

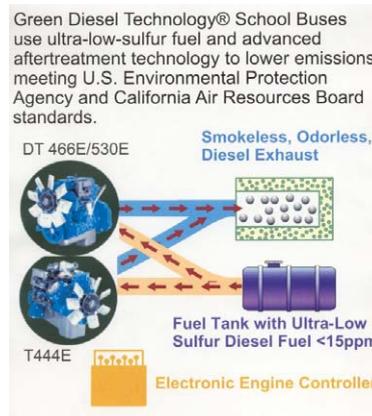
Continuous Improvement

Argonne National Laboratory in Argonne is one of the U.S. Department of Energy's (DOE) largest research centers. Argonne has established programs in the areas of waste prevention, recycling, affirmative procurement, sustainable design, green chemistry, and environmental remediation. The Waste Reduction, Recycling, and Remediation Programs have resulted in costs savings of \$11 million since 1996 to the Laboratory and DOE. In addition, the Laboratory's Pollution Prevention (P2) Advisory Committee initiated preliminary waste assessments on high volume/cost waste generators that resulted in annual waste reductions and savings of approximately \$109,000 in FY 2002.

Innovate Illinois Award

The 2003 Innovate Illinois Award is presented to International Truck and Engine Corporation. This award is for a company that has developed and implemented a new technological innovation. International won the award for its

Green Diesel Technology, an innovative integration of clean air technology and diesel performance made possible through years of product design and engineering. This new



technology utilizes the benefits of a catalyzed diesel particulate filter and low-sulfur fuel in combination with an exclusive engine performance design that significantly lowers the emissions and odor of diesel-powered buses and trucks.

Pollution is nothing but the resources we are not harvesting. We allow them to disperse because we've been ignorant of their value.

-- Buckminster Fuller

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