Congratulations to the 2012 Pollution Prevention Award Recipients!

2012 Award Recipients

Bisel, Inc. dba Minuteman Press
CST Industries
General Motors Fairfax Assembly
Moridge Manufacturing dba The Grasshopper Company
Via Christi Hospitals Wichita, Inc.

Bisel, Inc.
dba Minuteman Press

John Mitchell, KDHE DOE Director; and Dee Bisel, Minuteman Press

Minuteman Press, located in Lawrence, is a producer of small format printing and a provider of promotional products and bulk mailing. Minuteman was awarded for its efforts as a Sustainable Green Printer (SGP). The Sustainable Green Printing Partnership is an independent, non-profit organization providing a certification label for sustainability in the graphic communications industry. SGP is the industry standard for the certification and continuous improvement of sustainability and best practices within print manufacturing operations. SGP criteria requires facilities to undergo environmental, health and safety compliance audits, develop and implement a Sustainability Management System and a series of Best Management Practices designed to reduce their environmental footprint.

One of the projects implemented by Minuteman was to switch from petroleum-based inks to soy or vegetable-based inks. This contributed to a reduction in air emission reducing volatile organic compounds (VOCs) by 22 percent and hazardous air pollutants (HAPs) by 93 percent. The facility was also able to reduce its energy use by over 10,000 kWh per year since its baseline year of 2009 by implementing energy conservation measures such as a programmable thermostat, downsizing appliances, eliminating drafts through electrical outlets, turning off computers and monitors when not in use, and replacing incandescent bulbs with CFL bulbs.

In addition to receiving a P2 award from KDHE, Minuteman Press was also recognized nationally by the National Steering Committee (NSC) for the Small Business Ombudsman/Small Business Environmental Assistance Programs (SBOs/SBEAPs) in the category of Small Business Environmental Steward. Minuteman was unable to attend the national awards ceremony held in May in Arlington, Virginia so KDHE was pleased to present this award to them in addition to their P2 award. Minuteman Press is the first printing company in Kansas to become a Sustainable Green Printer (SGP) and only the 12th company in the country to earn this coveted designation.

CST Industries

Tiffany Jarman, CST Industries; and John Mitchell, KDHE DOE Director

CST Industries, located in Parsons, was awarded for its efforts in water and energy conservation. The Parsons facility specializes in the manufacture of bolted storage tanks. In the summer of 2011, the company implemented two very effective projects - recycling water in their wash and rinse cycle and completing a compressed air leak audit.

The Parsons plant has a wash and rinse section on its assembly line. The wash tank contains a soap solution and the solution used in the washer is continually recycled into the wash tank. However because some water is taken with the parts and some is evaporated, the tank would have to be refilled with fresh water. According to a water meter, the plant was using 4,000 gallons of water each day to provide makeup water in the wash tank. This wash water also had to be heated to 160 degrees F in order for the cleaning chemicals to work properly. The rinse section is used to wash the soap off of the part. Although the rinse water is not heated itself, it does absorb heat from metal parts as they pass from the wash process to the rinse process. To keep the water from getting too soapy, the plant continuously discharged the rinse water to the sanitary sewer. CST determined that 13,300 gallons of soapy rinse water was being discharged each day. In order to reduce the amount of water used, CST re-routed some of the soapy rinse water to the wash tank, resulting in two major benefits. First, the wash tank did not need to be replenished with make-up water throughout the day. Second, because the rinse water was heated to about 135 degrees F from the metal parts coming off the wash section, less energy is required to heat the wash water to the requisite 160 degrees F. The estimated water conservation from this project is 76,431 gallons per month and energy savings is 282.5 MMBtu/year and a total cost savings of up to $10,829 per year.

The company also completed an air leak detection audit using an ultrasonic leak detector to detect air turbulence caused by air leaks. CST detected 16 leaks throughout the plant. The estimated savings from fixing these air leaks was $10,395 or 173,250 kWh.

General Motors Fairfax Assembly Plant

Megan McCutcheon, General Motors; and John Mitchell, KDHE DOE Director

The General Motors Fairfax Assembly plant, located in Kansas City, Kansas, assembles the Chevrolet Malibu and the Buick Lacrosse. The GM Fairfax plant was awarded for its efforts in energy conservation.

The GM Fairfax plant undertook a lighting replacement project in 2011. The plant replaced 3,654 High Pressure Sodium & Mercury Vapor light fixtures (rated at 465 watts each) with T5 high-bay fixtures with five lamps (rated at 54 watts) and T8 high-bay fixtures with six lamps (rated at 32 watts). A total of 4,757 HID light fixtures were removed from service in an effort to reduce energy consumption and save money. The lighting project resulted in an annual reduction of 14,061 tons of CO2 emissions and an annual cost reduction of $1.29 million.

In addition to the lighting project, the company implemented a plant-wide energy reduction project which included raising temperature set points in the plant during the cooling season and lowering them during the heating season, establishing energy savings goals for each department, tracking progress to the goals and reporting the progress to plant management. This plan reduced the amount of natural gas burned by the facility resulting in an annual reduction of 6,068 tons of CO2 emissions and an annual cost reduction of $600,000.

Moridge Manufacturing
dba The Grasshopper Company

Ray Garvey, The Grasshopper Company; John Mitchell, KDHE DOE Director; Michael Simmon, The Grasshopper Company

Moridge Manufacturing, Inc. (dba The Grasshopper Company) was awarded for its efforts in source reduction and reducing air emissions. Located in Moundridge, Moridge is a manufacturer of commercial mowing and grounds maintenance equipment.

Moridge has been able to improve the usable yield per sheet of metal by installing three new lasers and upgrading the profile nesting software for closer nesting of custom parts during fabrication. With the previous lasers, only one part could be nested onto each sheet of metal, which on average produced a 74 percent usable yield depending on the size and shape of the part. The new lasers and profile nesting software minimizes the space between each part and optimizes cutting precision, resulting in higher yield quantities and lower quantities of scrap. Furthermore, the spaces between adjacent parts on the sheet can be filled in with different shaped parts. This technique was previously impossible to accomplish due to technical limitations of the original lasers and nesting software. The new lasers are consistently delivering up to 89 percent usable yield. In addition to increased yield from improved nesting, Moridge is now employing a laser inspection machine for first article inspection, which automatically compares the dimensions and outline of the part to the original CAD file. Through this sophisticated process of scanning, variances outside of pre-set tolerances can be identified and adjusted, which improves part consistency and completely eliminates rejection and reworking. Prior to implementation of laser inspection, the part reject rate was approximately 6 percent. Moridge has reduced its raw materials by 21 percent with an estimated cost savings of $423,000 per year.

Moridge Manufacturing dba The Grasshopper Company believes that diesel is the most efficient fuel for hard-working equipment. The near elimination of sulfur content diesel coupled with final implementation of Tier 4 emissions standards (which go into effect on January 1, 2013) in smaller non-road engines created the opportunity to reduce emissions at job sites nationwide through the use of diesel engine powered mowers and grounds maintenance machines. The biggest challenges were two-fold: overcoming the preconceived notions about diesel among the customer base, and engineering hurdles related to harnessing the extra power of diesel engines in equipment traditionally powered by less demanding (and less performing) gasoline engines. By 2008, The Grasshopper Company realized a national clean-diesel initiative would yield significant environmental benefits as well as productivity benefits to its client base. This led to a national campaign manifested in website design, educational materials, and numerous opportunities to share the message in the press. As each landscaper replaces a gasoline- or propane-powered commercial mower with a Grasshopper MaxTorque Clean Diesel Mower, emissions are reduced. Moridge clearly recognized that the majority of emissions associated with the life-cycle of the mower will come from its operation. Therefore, Moridge exhibited good environmental stewardship as well as capitalized on market opportunities by producing lower emitting MaxTorque Clean Diesel technology engines.

Via Christi Hospitals Wichita

Anas Sadkhi – Via Christi

Via Christi Hospitals Wichita was awarded for its efforts in energy conservation. Via Christi Hospitals is comprised of five hospital campuses, each with their own diagnostic focus. Every year, Via Christi Hospitals Wichita looks for ways to make their facilities more energy efficient. Most recently, two projects – the installation of a new burner with controls on a boiler at the Via Christi Hospital on Harry Street and the replacement of pneumatic controls with electronic ones on an air handler unit (AHU) at the Via Christi Hospital on St. Francis – afforded these campuses the ability to decrease not only their overall natural gas consumption but also their greenhouse gas emissions.

Often the efficiency of a process can be improved by simply updating the mechanism in control. Such was the case for an air handler unit (AHU) at the Via Christi Hospital on St. Francis. The preexisting pneumatic controls were nearing the end of their lifespan, and the energy management team took the opportunity to replace them with controls that are more energy efficient and easier to maintain. Direct digital control (DDC) refers to solid-state, microprocessor technology that allows the operator to control heating and cooling functions remotely, with software that analyzes and takes into account a wide range of variables. DDC systems offer significant energy-efficient advantages over conventional pneumatic systems primarily due to the extended precision and accuracy of the controls. Whereas pneumatic controls can lose accuracy at 25% of their lifespan and suffer from "offset," requiring frequent recalibration and maintenance by staff, DDCs maintain their precision for far longer, resulting in a decrease in purely wasted energy.

After identifying an increasingly inefficient burner on its boiler system at the Via Christi Hospital on Harry, the energy management team chose to retrofit the existing boiler with a single high efficiency, low emission, and low O_2 Limpsfield burner. The burner was outfitted with an Autoflame control that monitors O_2 in the exhaust and uses variable frequency drives (VFDs) to control the amount of oxygen mix available during the combustion of natural gas. When the oxygen mix is optimal, the fuel burns more complete and emissions are reduced. Intended to increase natural gas fuel savings and reduce environmental emissions, the retrofit was projected to save over 15,000 MMBTUs of natural gas/year and reduce greenhouse gas emissions by over 3,000 MTCO2e.