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A ssistance
C enter

Printing
Environmental Technology

Case Study

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Neenah Printing Division of Menasha Corporation Neenah, Wisconsin

The Neenah Printing Division of Menasha Corporation has developed a firm commitment to sound environmental management as an outgrowth of the corporate philosophy expressed in their **Environmental Mission Statement:**

Menasha Corporation recognizes and believes in the importance of safeguarding natural resources and the global environmental heritage. We are committed to our employees, our customers, and our communities; their health, safety, and their understanding of the need for each individual's environmental stewardship. We believe that environmental and industrial hygiene goals can and should be consistent with economic health.

The company reinforces this statement with eleven clear "commitments" that give environmental policy a primary role in evaluating product and process design and planning. These also make it imperative that natural resources and manufacturing by-products be managed in a responsible manner, and ensure that environmental management will be an integral part of all facets of Menasha Corporation's operations.

Through implementation of this commitment to environmental excellence, the Neenah Printing Division has greatly reduced air emissions and hazardous waste generation. Hazardous waste has even been totally eliminated from part of its operations.

Industry & Process

Printing Industry. Lithographic web and sheetfed printing, and wide web flexographic printing.

Background

Neenah Printing Division of Menasha Corporation employs 350 people at four Neenah, Wisconsin facilities. These are:

- Commercial Plant: Sheetfed offset commercial printer of paperboard products, sample books and booklets, and fabric labels.
- Wide Web Flexo Plant: Pre-printed liner board and non-woven materials.
- Web Offset / Flexo Plant: Forms, pocket folders, form/label combinations, direct mail promotional pieces.
- Distribution Center: Custom fulfillment and product distribution.

Types of Waste Managed

Air Emissions: VOC emissions from petroleum and solvent-based inks, and from alcohol-based fountain solutions.

Hazardous Waste: Inks with low flash points.

Wastewater: High silver content.

Solid Waste: Ink, packaging materials, pallets, film, plates . . .

Accomplishments in Waste Reduction and Pollution Prevention

Air Emissions

Commercial Plant: Since 1997, 80% of all sheetfed offset inks have been soy-based. All presses run on non-alcohol fountain solutions.

Wide Web Flexo Plant: 97% of all inks used are water-based. This, along with a reduction in the use of clean-up solvents has directly resulted in a steady decline in VOC emissions, from 89.7 tons in 1987 to 42.6 tons in 1993 and a projected 13.0 tons in 1999. This reduction in VOC emissions occurred during a time of significant increases in sales and production, including the installation of a new printing press.

Web Offset / Flexo Plant: Petroleum-based inks have been replaced with soy-based alternatives. Alcohol-based fountain solutions were discontinued in 1992.

Hazardous Waste

Between 1992 and 1996, the volume of hazardous waste generated annually in the Commercial Plant dropped from around 25,000 pounds to zero. This was accomplished primarily through switching ink systems, clean-up solvents, and a solvent used in a parts washer to high flash-point materials which are not classified as hazardous waste.

All waste solvent, inks, and coatings generated by Neenah Printing are collected and processed by an off-site contractor for recycling or fuel blending.

The volume of hazardous waste at all of Neenah Printing's facilities has dropped by 75% in the 1990's. The company was able to change its hazardous waste generator status at the Wide Web Flexo Plant from Large Quantity Generator (LQG) to Small Quantity Generator (SQG) in 1996.

Wastewater

The Commercial Plant has been recovering silver from its wastewater effluent for many years. This silver is a common by-product of film developing processes. The company has made several equipment upgrades and improvements to continually increase recovery efficiency. Since 1988, nearly 150 pounds of silver have been removed from wastewater.

Changes in printing technology have allowed Neenah Printing to remove one developer altogether. Further progress in this area has the potential to eliminate this waste at the source.

Solid Waste

Between 1988 and 1997, the Commercial Plant recycled around 100 tons of aluminum plates. This impressive volume continued in 1998 when nearly 23 tons were recycled. The Commercial Plant also recycles its photographic film – over 61,000 lbs. between 1988 and 1996 – but expects this volume decline as it makes the transition to printing technologies that use less film.

Environmental Management

Additionally, Neenah Printing has a comprehensive recycling and reuse program that covers materials ranging from office paper and corrugated cardboard to shop rags, that are laundered for reuse. The company also has replaced wooden pallets in its operations with more durable, reusable plastic skids.

Neenah Printing made the transition to widespread use of water-based inks in the face of some daunting challenges. The company, through a firm commitment to sound environmental management, overcame several quality issues related to the printed surface, such as the ink rubbing or washing off, and fading. Now Neenah Printing uses water-based inks with the same confidence in quality that it had with solvent-based chemistry, but with the benefits of less chemical exposure for employees, and greatly reduced air emissions and hazardous waste disposal.

For its efforts, Neenah Printing has received the following awards:

- *1994 Wisconsin Business Friend of the Environment: Environmental Stewardship Award*
- *1996 Associated Recyclers of Wisconsin (AROW) Award for Business Recycling*
- *1998 Wisconsin Governor's Award for Excellence in Hazardous Waste Reduction*

Not content to rest on its laurels, the company continues to seek ways to build upon its impressive list of accomplishments by pursuing inks and coatings with even lower emission levels, and by investigating ways to further reduce the chemical exposure in its processes.

Commitment to the Community

As expressed in their corporate Environmental Mission Statement, the Neenah Printing Division has shown that true environmental stewardship reaches beyond a company's processes and products. It can become a part of how a company relates to its employees, their families and the community at large. Some examples of this type of outreach are:

Folding Carton Bank

In 1992, Neenah Printing developed an eight-sided folding carton that when assembled turned into a bank. Seven sides of the bank contained graphics promoting recycling, reuse, and reduction. The purpose of this promotional piece was to advertise the company's entry into the folding carton market and also to promote the division's commitment to being an environmentally responsible printer. The promotional piece was a big success.

From 1992 through 1996, over 5,000 of these banks were distributed to various schools, organizations, and businesses for distribution to children. Requests for these banks came from across Wisconsin, Michigan, and even Arizona.

Earth Day Gift Box

In 1993, Neenah Printing developed an environmental gift box to promote Earth Day, the use of recycled paper and envelopes, being environmentally responsible at home, and Neenah Printing’s accomplishments in being an environmentally responsible printer.

Each of the 8 1/2” x 11” boxes contained recycled paper and envelopes along with a “natural pencil”. Brochures covering topics such as home composting, household environmental hazards, and responsible yard and vehicle care were included in the box. Neenah Printing’s “Pulling for our Planet” and “Partner with the Environment” promotional pieces were also included in the box. The cover of each gift box contained individually unique environmental artwork drawn by local grade school children specifically for this box. The gift box was given to each employee, various vendors, customers, and friends of the company.

Green Christmas Information Sheet

In 1996, Neenah Printing developed a one-page “Green Christmas” information sheet to educate our employees and their families on various environmental tips specifically for Christmas season. The sheet contained various tips on Christmas waste recycling, reduction, and reuse.

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