American Packaging Corporation

COMPANY BACKGROUND

American Packaging Corporation is an integrated flexible packaging converter that services the food, beverage, medical, personal care, lawn and garden, household, agricultural chemical and pet food markets. With three divisions and more than 550 employees nationwide, American Packaging Corporation is one of the largest privately-owned packaging companies in the world. The Story City facility specializes in flexographic printing with in-line adhesive laminations using a variety of substrates. It operates the latest slitting and rewinding equipment and produces a wide assortment of pouches and bags.

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PROJECT BACKGROUND

American Packaging Corporation is committed to preserving natural resources and minimizing waste. Last year's Pollution Prevention intern proposed projects with substantial cost savings and environmental benefits and helped the company to become more sustainable. This year's intern focused on reducing adhesive and organic solvent waste, limiting solid waste and decreasing natural gas consumption at the Story City plant.

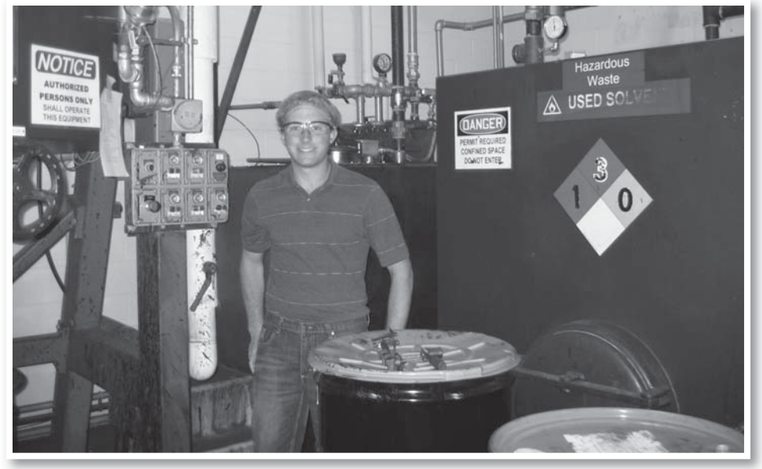
INCENTIVES TO CHANGE

For American Packaging Corporation to maintain its competitive edge, environmental stewardship is not a choice; it is a necessity. As energy prices continue to rise and customers demand environmentally conscious suppliers, American Packaging will continue to innovate and reduce its environmental impact. Each of American Packaging's three facilities has developed a 'Green Team' consisting of members from various areas in the plants. The teams have been charged with identifying and implementing pollution prevention opportunities.

RESULTS

Solvent/Hazardous Waste: The intern reviewed and provided updates to the company's hazardous waste profile. During the review, an accounting error was realized. American Packaging Corporation received credit for the mistake and the treatment, storage and disposal (TSD) vendor's bid was corrected. It was also found that the TSD's use and price for hazardous waste removal is dependent on the accumulation of a solid layer at the bottom of each drum; a more solid drum is more difficult to dispose of and is less useful. Eliminating the practice of mixing ink and adhesive waste will increase the number of liquid drums produced and decrease the cost of removal. American Packaging Corporation currently uses a still to recover solvents from ink waste. Adding a holding tank for the ink waste will promote liquid separation from solid ink waste and better standardize the still's output. Introducing a recycle stream into the still would increase the solvent recovered and decrease the amount of hazardous waste exported.

Vapor Waste: American Packaging Corporation uses two Regenerative Thermal Oxidizers (RTO) to convert solvent vapors to CO2 and H2O. They operate at approximately 1550°F and require natural gas supplements to maintain the high temperature. A vendor was contacted



and it was determined that through installation of insulation, an upgrade in ceramic media, practice changes and installation of heat recovery equipment, significant natural gas savings could be realized.

Plastic Recycling: Approximately 20.8 tons per month of plastic trim is currently generated in the slitting process. The waste is currently compacted and incinerated for energy recovery. The purchase and installation of a baler will allow American Packaging Corporation's recycling vendor to take the scrap, making better use of 250 tons of scrap per year.

Adhesive: American Packaging Corporation currently uses ethyl acetate as a solvent when cleaning adhesives from machinery. Although some adhesives are not hazardous, when mixed with ethyl acetate, the waste must be handled as hazardous. Employing a non-hazardous solvent would reduce the amount of hazardous waste generated and create a safer waste stream. A potential candidate has been identified and trials are currently underway.

AIR POLLUTANTS DIVERTED IN TONS

Total for all sectors	
SO2	1.27
CO	2.33
NOx	1.36
VOC	2.87
PM	0.13

GREEN HOUSE GASES DIVERTED IN TONS
(CO2 Equivalent)

Total for all sectors	
CO2	1737
CH4	744
N2O	1.90
CFC	5.67

PROJECT	ANNUAL COST SAVINGS	ENVIRONMENTAL RESULTS	STATUS
HAZARDOUS WASTE PRICING ERROR	$55,100 (ONE TIME)	N/A	CREDIT ISSUED
STILL TEAR STREAM	$2,575	2,361 GALLONS	RECOMMENDED
STILL TUNDISH	$5,150	4,722 GALLONS	RECOMMENDED
RTO HEAT RECOVERY	$254,000	252,000 THERMS	RECOMMENDED
RTO CERAMIC MEDIA UPGRADE	$175,000	159,090 THERMS	RECOMMENDED
RTO INSULATION	$55,000	50,400 THERMS	RECOMMENDED
EXHAUST AIR USE ON GEOENERGY RTO	$6,225	5,660 THERMS	RECOMMENDED
TRIM RECYCLING	$27,075	245.8 TONS	RECOMMENDED
NON-HAZARDOUS SOLVENT	TBD	TBD	TRIALS IN PROGRESS