

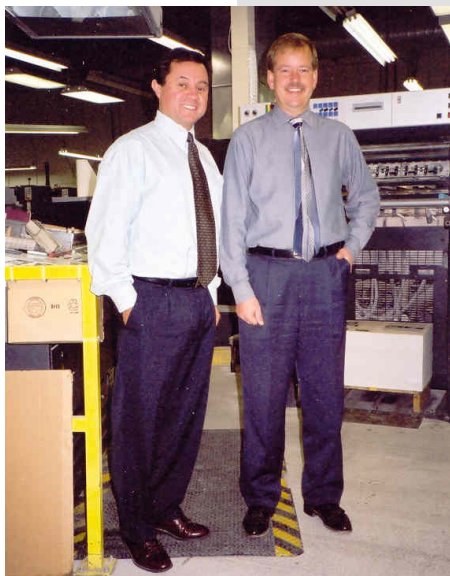
Thistle Printing Ltd.

Company Overview

Thistle Printing Limited is a full service, commercial lithographic printing company. There are 45 full time staff employed at Thistle Printing, working 3 shifts/6 days a week in the 23,000-sq/ft facility.

Thistle management is committed to producing high quality offset lithographic printing with minimal impact on the environment while offering a safe working environment. The company is also committed to compliance with all applicable laws and regulations and wishes to apply for Ecologo certification under the ECP-58-94 standard for lithographic printing. As part of this initiative the senior management has commissioned this Pollution Prevention Assessment to be conducted under the Toronto Region Sustainability Program.

P2 Assessment Process



John DiClemente, Sales Manager and
Bryan Hockaday, General Manager

Through the Toronto Region Sustainability Program, Thistle contracted EcoSoft environmental management (John Piggott) to assess their facility for pollution prevention opportunities. This review included process flow mapping, equipment uses, evaluation of the way chemicals are employed and stored,

and waste handling and discharges. From this assessment, many pollution prevention opportunities and sewer use compliance issues were realized. The consultant provided Thistle Printing with a detailed report and recommended action plan.

Summary of Findings

One of the most significant areas for pollution prevention is in the Pre-Press. The Fuji Computer to Plate (CTP) processor uses approximately 2 gallons per minute of fresh wash water. This is controlled by a solenoid so that the water runs when plates are being processed or when the Metafix pH neutralizing unit demands water to dilute the developer prior to discharge. The initial wash bath removes a vinyl acetate coating from the plate. The subsequent wash bath removes the developer. This total water use is 545 kilolitres a year.

Another area of concern is in the fountain solution in the Pressroom. Fountain solution becomes contaminated with water extractable metals such as cobalt, copper, molybdenum, zinc and other elements from the ink and the solvents. Water from a manual reverse osmosis (RO) unit is used to blend the fountain solution; RO water eliminates dissolved minerals and other contaminants from the city's water supply.

"With the assistance of EcoSoft and OCETA, we have come to appreciate the importance of responsible waste management. The results - a positive impact on the environment and our bottom line. A definite win-win program!"

*Brian Hockaday, General Manager
Thistle Printing Ltd.*

P2 Solutions, Environmental Results and Related Cost Savings

The table below summarizes P2 projects being undertaken at Thistle from the list of P2 recommendations outlined in the assessment report. When implementation is complete, the P2 measures at Thistle are projected to eliminate annually:

- 11.7 tonnes VOCs
- 1.3 tonnes GHGs
- 3.2 tonnes hazardous wastes
- 546 tonnes water

With annual savings of **\$14,000** and an overall payback of **2 years**.

Process	P2 Solutions	Environmental Reductions	Cost Savings & Payback
<p>Pre-Press - Computer to Plate Processor</p> <p>Targeted Pollutants/Waste: CTP Processor Wash Water</p>	<p>Installation of CTP processor wash water recirculation unit</p>	<p>Reductions of 546 tonnes/year water consumption and 1.3 tonnes/year GHGs</p>	<p>➔ \$1.5 K annual savings</p> <p>Payback: 2 years</p>
<p>Pressroom – Blanket Wash</p> <p>Targeted Pollutants/Waste: Spent Fountain Solution and Waste Press Wash (Hazardous Waste and VOCs)</p>	<p>Membrane filtration of waste fountain solution</p> <p>Vacuum distillation of spent press wash</p> <p>Solvent recycling</p>	<p>95% recovery of solvents, reduction of 3.2 tonnes/year hazardous waste and 11.5 tonnes/year solvents</p> <p>Avoidance of fines for pouring solvent down drain</p>	<p>➔ \$12 K annual savings</p> <p>Payback: 22 months</p>
<p>Pressroom – Fountain Solution</p> <p>Targeted Pollutants/Waste: Solvents</p>	<p>Installation of automatic fountain concentrate dosing system</p>	<p>Save 78 man-hours per year manually mixing, carrying and filling each press with fresh fountain solution and eliminate potential spills</p>	<p>➔ \$8 K annual savings</p>

Funding and Program Support:



Delivered by:



For more information, please contact:

Fred Granek, Vice President, Sustainability, OCETA
 2070 Hadwen Rd, Unit 201A, Mississauga, ON L5K 2C9
 Tel: 905 822 4133 x224, email: fgranek@oceta.on.ca
 Web site: www.oceta.on.ca/TORSUS/