

# Colour Innovations

### Company Overview

Colour Innovations is a commercial lithographic printing company located in Toronto, Ontario. With a 2,800 square metre fully integrated print facility and 66 full-time employees, Colour Innovations provides design, pre-press, printing, binding and finishing services for a variety of prestigious clients including Canada Post.

Colour Innovations demonstrates technological leadership in the commercial printing sector and is continually striving to improve its management programs including quality, health & safety and environment. This is exemplified by its long term EcoLogo certification under the Environmental Choice program as well as its Smart-Wood certification under the Forest Stewardship Council. Participation in the Toronto Region Sustainability Program (TRSP) is another step in reaching the company's environmental and social responsibility objectives.

### P2 Assessment Process

Through the TRSP, Colour Innovations commissioned a Pollution Prevention (P2) Assessment with EcoSafe environmental, health & safety management to identify waste streams, isolate pollutants and recommend solutions to reduce pollutants and waste at the source. The assessment also covered Colour Innovation's compliance status and assisted with meeting the requirements of applicable municipal, provincial and federal regulations and their EcoLogo certification. This includes the *Canadian Environmental Protection Act (CEPA)*, the municipal sewer use bylaw, hazardous waste and Provincial Air Emissions reporting. It also offered opportunities to reduce liability, improve environmental and operational performance, save costs and demonstrate due diligence. An ISO 9000 / 14001 gap analysis was also conducted as part of the assessment criteria options.

Throughout the P2 assessment process, Mr. Pius Schneider, Chief Operating Officer at Colour Innovations, and Mr. Lou Bolarinho were instrumental in assisting with interviews and access to information and data. Opportunities to improve process efficiencies and reduce waste were identified and a periodic report was submitted during the course of the assessment, including a two-year summary update for the Municipal Sewer P2 Plan. When the assessment was complete, Mr. John Piggott of EcoSafe provided the firm with a detailed report with recommendations for P2 options and cost avoidance at Colour Innovations.

### Summary of Findings

A number of positive elements and environmental initiatives were already in place, however there were some processes at the Colour Innovations facility that were identified for improvement to further reduce or eliminate pollution and waste.

Computer-to-plate (CTP) developer contains elevated levels of biological oxygen demand (BOD), phosphorous, total suspended solids (TSS) and nitrogen, all of which are parameters regulated under the Toronto sewer use bylaw. In the pre-press area, this CTP developer use could be significantly reduced by installing a developer recirculation system, which would have two benefits. First, it would reduce the amount of raw material being purchased by the company; and second, it would reduce the amount of hazardous waste and associated disposal costs.

In the pressroom, waste fountain solution was being mixed with the spent blanket wash in the solvent distillation holding tank, greatly reducing the efficiency of the solvent recycling system. An estimated 50% or approximately 15,000 litres of waste solvent and water were shipped offsite at high cost to Colour Innovations. Reconfiguring the spent press wash and solvent recycling system would help to address this issue and ensure that any excess wastewater is solvent-free. Blanket wash is a major source of volatile organic compound (VOC) emissions, which cause smog and are hazardous to human health, therefore any reduction in their use is beneficial.

During the course of the assessment, a Standard Operating Procedure for hazardous waste management was developed and implemented, including hazardous waste manifests, handling and shipping.



**Pius Schneider, Chief Operating Officer, in the Pre-Press area at the Colour Innovations facility**

**"Colour Innovations is committed to conducting its business in an environmentally friendly manner by instituting policies and programs that ensure that it's prepress and printing processes have virtually no negative impact on the environment."**

# P2 Solutions, Environmental Results and Related Cost Savings

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

• 6.5 tonnes VOCs

• 16 tonnes hazardous waste

• 15 tonnes process waste

With annual savings of **\$40,000** and an overall payback of **9 months**.

Process	P2 Solutions	Environmental Reductions	Cost Savings & Payback
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## Pre-Press

### Waste CTP Developer

Targeted Pollutants:  
Hazardous Waste

Investigation of a computer-to-plate (CTP) developer recirculation system is in progress

Implementation of this option can reduce CTP developer use by 50-75% and reduce CTP developer waste by 1.2 tonnes per year, which would result in a reduction of waste haulage costs

➔ Annual estimated savings of \$14 K

Payback of 9 months

## Pressroom

### Reverse Osmosis Water & Fountain Solution

Installation of a centralized fount dosing system with automatic blending for existing reverse osmosis system

Reduction of manual labour requirements (104 person-hours/year) and reduction of mixing inconsistencies

➔ Annual estimated savings of \$ 3 K

Payback of 11 months

### Waste Fountain Solution

Targeted Pollutants:  
VOCs and Process Wastes

Installation of a hollow tube ultra membrane filtration system

90% recovery of fountain solution and solvents, and reductions of 3 tonnes of VOCs and 15 tonnes of process waste annually

➔ Annual estimated savings of \$ 13 K

Payback of 15 months

### Spent press wash & solvent recycling

Targeted Pollutants:  
Hazardous Waste and VOCs

Reconfiguration of existing blanket wash distillation unit to ensure wastewater is solvent-free

85% reduction and recovery of solvents for reuse eliminating 15 tonnes of hazardous waste annually

➔ Annual estimated savings of \$ 9 K

Immediate payback

Reduction of 3 tonnes/year of VOCs (methyl ethyl ketone & toluene)

## General Waste Recycling

### Fluorescent Light bulbs

Collection and pick-up by Fluorescent Lamp Recyclers for recycling and reuse of mercury

Diversion of 1.8 grams of mercury from landfill annually

➔ Revenue Neutral

### Ink Cans

Arrangement for collection of empty cans by supplier

Diversion of 462 kg/year of metal from landfill

➔ Save on garbage pick-up costs

## Funding and Program Support:



## Delivered by:



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