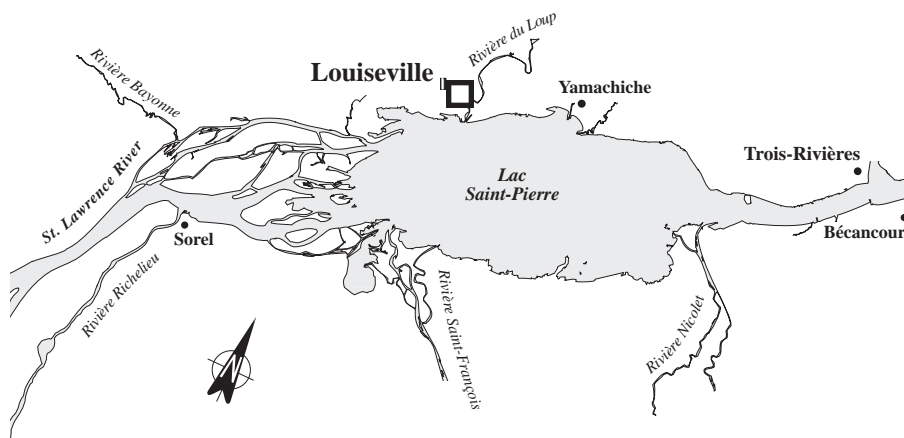


FACT SHEET 103

Matériaux Cascades Inc.

161 Saint-Paul Street
Louiseville, Quebec
J5V 2G9



A list of 106 industrial plants has been established under St. Lawrence Vision 2000 (SLV 2000), the second phase of the St. Lawrence Action Plan, launched in 1988. The general objective is to reduce toxic effluent and virtually eliminate discharges of persistent toxic substances.

The 106 industrial plants designated under SLV 2000 are divided into four groups, each with a specific objective. The MATÉRIAUX CASCADES INC. mill in Louiseville is in Group 3, which comprises regulated industrial plants.

The objective for Group 3 is to check toxic discharges of regulated plants against environmental objectives and to establish corrective measures for maximum reduction of deleterious effects on the receiving environment.

INDUSTRIAL PLANT

Wood fibreboard mill

The MATÉRIAUX CASCADES INC. mill in Louiseville produces wood fibreboard. The process consists of refining and pulping wood chips (90%) and grinding and pulping old paper (10%). The pulp is made into boards, dried and then baled. In 1995, the mill employs a work force of 42.

PRODUCTION

PRINCIPAL RAW MATERIALS

- Wood chips
- Old paper
- Tar
- Dye
- Starch
- Alum

FINISHED PRODUCT

- Wood fibreboard

TREATMENT MEASURES

INITIAL EFFLUENT VALUES

Low flowrate

According to company data, in 1993 the mill discharged 85.1 m³/d of effluent to the Petite Rivière-du-Loup containing notably:

- 478 kg/d of biochemical oxygen demand (BOD₅)
- 125.6 kg/d of suspended solids (SS)

RESOURCES AND USES TO PRESERVE

Sport fishing and pleasure boating

The MATÉRIAUX CASCADES INC. mill in Louiseville empties its effluent into the Louiseville sewerage system before discharge to Rivière-du-Loup a few kilometres upstream of its confluence with Lake Saint-Pierre. The stretch of river between Louiseville and Lake Saint-Pierre is used by sports fishermen and pleasure boaters. Along this stretch there are also cottaging areas, a marina and boat ramps.

ENVIRONMENTAL DISCHARGE OBJECTIVES

Environmental protection

Environmental discharge objectives are established to preserve local resources and uses. Expressed as maximum permissible loads and concentrations for effluent released into the environment, these guidelines are used to select treatment methods which best promote environmental protection. There are no environmental discharge objectives for the MATÉRIAUX CASCADES INC. mill because its wastewater will be treated by the municipal wastewater treatment plant starting in 1996.

EFFLUENT TREATMENT

Reuse and ultrafiltration

A large part of the industrial effluent is recirculated. Wastewater that is not recirculated is subjected to ultrafiltration before it is channeled to the municipal sewerage system. Domestic sewage is also channeled to the municipal sewerage system. Starting in 1996, they will be treated by the municipal wastewater treatment plant.

PREVENTION AND CLEANUP MEASURES IMPLEMENTED

Effluent flow rate reduced

In 1993, a new fibreboard press was introduced at the mill and measures were taken to reduce effluent by recirculating washwater and sealing the pumps. A total of about \$1.2 million was invested. In 1995, an ultrafiltration unit was added at the mill; this made it possible to increase water reuse, and effluent flowrate decreased accordingly. Starting in 1996, wastewater from the MATÉRIAUX CASCADES INC. mill will be treated in the Louiseville wastewater treatment plant.

REGULATORY COMPLIANCE - WATER COMPONENT

Effluent meets standards

The MATÉRIAUX CASCADES INC. mill in Louiseville is subject to provincial and federal pulp and paper regulations. With the implementation of the environmental measures, the company has complied with the latest provincial standards, which came into force on September 30, 1995.

POLLUTION ABATEMENT

CHIMIOTOX INDEX ABATEMENT OF TOXIC POLLUTION

*Connection to municipal wastewater
treatment plant*

The Chimiotox index gauges the load of all toxic substances in industrial effluent using toxicity factors assigned to each contaminant. It is used, among other things, to monitor discharge trends over the years and to determine the toxic contribution of each pollutant.

As the production was stopped during the last quarter of 1995 at the MATÉRIAUX CASCADES INC. mill in Louiseville, there are not enough data to estimate the Chimiotox Index.

Table 1 *Chimiotox Index - Matériaux Cascades Inc.*

| Substance | Load (kg/d) | Toxic Weighting Factor | Chimiotox Units (CU) |
|-----------------|----------------|---------------------------|-------------------------|
| CHIMIOTOX INDEX | | | N/A |

As the production was stopped during the last quarter of 1995 at the MATÉRIAUX CASCADES INC. mill in Louiseville, there are not enough data to estimate the Chimiotox Index.

VIRTUAL ELIMINATION OF PERSISTENT TOXIC SUBSTANCES

One long-range objective of SLV 2000 is the virtual elimination of eleven persistent and bioaccumulative toxic substances from effluent of the 106 targeted plants along the St. Lawrence and its tributaries. The targeted substances are those designated by the International Joint Commission in August 1993: PCBs, DDT, dieldrin, toxaphene, dioxins, furans, mirex, mercury, lead alkyls, benzo(a)pyrene and hexachlorobenzene. To reach this objective, Protection has fixed the environmental discharge objectives set for applicable substances as its target by the end of SLV 2000 in 1998, thereby ensuring that all uses of the receiving environment are protected.

Based on data from the self-regulating effluent monitoring program for the last three months of 1995, none of the eleven targeted persistent and bioaccumulative toxic substances were detected in the company's effluent.

EFFLUENT TOXICITY

No testing for toxicity

Since September 30, 1995, it has been illegal under the Quebec pulp and paper regulation to release into the environment or a storm sewer a final effluent that is acutely lethal to rainbow trout, as demonstrated by bioassays. Since the MATÉRIAUX CASCADES INC. mill is to be connected to the municipal wastewater treatment plant, its effluent doesn't have to be tested for toxicity.

REDUCTION IN SUBSTANCES MONITORED

Dramatic decrease in flowrate, biochemical oxygen demand and suspended solids

According to company data for the last three months of 1995, the mill discharges 0.1 m³/d of effluent, containing notably:

- 0.73 kg/d of biochemical oxygen demand (BOD₅)
- 0.12 kg/d of suspended solids (ss)

Between 1993 and 1995, MATÉRIAUX CASCADES INC.'s flowrate, biochemical oxygen demand and suspended solids loads dropped close to 100%.

KEY POINTS

- Water recirculation measures implemented in 1993
- Ultrafiltration system on stream in 1995
- Near 100% flow and loads reduction
- Effluent to be channeled to Louiseville wastewater treatment plant starting in 1996

Based on December 1995 inventory

ADDITIONAL INFORMATION

Chimiotox Index and PEEP:

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