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# GAY LEA FOODS EXPANSION

BY JAAN KOEL

**L**ast summer, Gay Lea Foods commissioned one of the country’s largest and most ambitious dairy installations in Guelph, Ont. Gay Lea is a \$280 million per year farmers’ co-operative operating predominantly in Ontario. One of the key suppliers was Tetra Pak Canada Inc.

The contract started in August 2000 and is part of a larger multi-million-dollar expansion involving other Gay Lea plants.

The Guelph facility consists of two parts: an existing plant and a new one. The existing plant produces butter and aerosol whips. The new greenfield facility produces skim milk powder, bulk cream and condensed milk. The company, which has five plants in Ontario and 450 employees, also produces cottage cheese, dips, ice cream, edible oil products, and UHT milk and cream.

Each day, the plant in Guelph takes in 800,000 to one million litres of raw milk and separates it into skim milk and cream. The skim milk is sent to the evaporator and dryer departments in the new plant to produce skim milk powder. The evaporator and dryer equipment was installed by Niro. The cream is sent to two locations: the butter manufacturing line in the existing plant and to silos in the new plant for bulk



Unique MixProof valves and ThinkTop controllers from Alfa Laval comprise the heart of the flow system at the Gay Lea plant in Guelph, Ont.

sales to ice cream mix manufacturers, catering operators and other customers.

Tetra Pak installed and commissioned the milk separating and pasteurizing equipment. The separator is a Tetra Centri HMRPX-818-HGV unit, which runs at 45,000 l/h. There are two pasteurizers. One is a Tetra Plex Clip 8 heat exchanger, which runs at 4,500 l/h, and is used to pasteurize the cream coming off the Tetra Centri separator. The second unit, an 11,000 l/h Tetra Plex Clip 8, treats an additional 100,000 to 150,000 litres of cream the company brings in each day to supplement its raw material supply for butter making.

In addition, Tetra Pak supplied and installed a Tetra Pak Filtration Systems Reverse Osmosis module, capable of treating 35,000 l/h of water directly from the evaporator, a Tetra Alfafast 210 standardizer, CIP equipment and close to 200 Alfa Laval Unique MixProof valves, which comprise the heart of the plant’s flow system.

“The Unique MixProof valves are fitted with Alfa Laval ThinkTop controllers,” says Dennis Wieckowski, Tetra Pak Canada senior process specialist, who managed the project. “ThinkTop controllers greatly reduce the amount of electrical work needed to install a plant compared to having

to build a system from the floor up.”

Tetra Pak also provided all the remaining automation for its part of the operation. The system is based on three Allen-Bradley ControlLogix and two CompactLogix PLCs. Main networking is through DeviceNet,

with Ethernet connections to three PCs loaded with Tetra PlantMaster software. “This configuration enables operators to run the plant simply and safely from a central control room,” says Wieckowski.

Competition for the project was

tough from the start. Niro and another competitor went after both wet and dry parts of the project. Tetra Pak’s interest and expertise centred on the wet side. In the end Tetra Pak won on the skim milk and cream lines, and Niro got the contract for the evaporator and spray dryer.

“We chose Tetra Pak because we felt they had the expertise to guarantee a successful project, as well as the local back up to service us on an ongoing basis,” says Brendan Wall, Gay Lea Foods director of operations.

As for commissioning, Wall says the schedule was extremely tight. “Six months prior we insisted we start on June 2, 2003. The Tetra Pak team has been very good. They’ve been here 24 hours a day seven days a week when needed.”

Wall says most of the issues during the commissioning phase had to do with automation, getting Tetra Pak’s PLCs to work with Niro’s computers. “Barriers had to go down,” says Wall.

#### MORE BUSINESS

“When we signed this deal,” says Wieckowski, “it was the largest project since we started our processing business in Canada. This job put us on the map, and has helped us sell other big projects.” Since then these projects have included a recent milk processing plant for a hole-through-the wall plastic bottle installation in Ontario, and a number of UHT milk plants and a soya line in Quebec.

Wall says this last project also opened up more business between Tetra Pak and Gay Lea. “It’s worked out well on both sides,” he says, and notes that “we have an ESL plant in Toronto, and just ordered a Tetra Therm VTIS direct steam processing unit. We’re also expanding a plant we have in Teeswater, Ont., and converting it to whey production. We will be equipping it with mixing equipment, tubular heat exchangers, a Contherm unit and an homogenizer from Tetra Pak.”

*Jaan Koel is a corporate manager of communications for Tetra Pak Canada Inc.*

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