Client	Pauls Dairy (Parmalat)
Location	Rockhampton, Queensland, Australia
ACQUA Product	Induced Cyclonic Separator (IC-SEP*)

Objective

Pauls Dairy is a subsidiary of the international milk and food company Parmalat. Pauls Dairy was deemed to be non-compliant with wastewater discharge from their Rockhampton (Queensland, Australia) facility that produces both plain and flavoured milk.

ACQUA International Group (ACQUA) was contacted to provide a wastewater treatment system to make Pauls Dairy compliant with the regional water authority.

Background

Originally the wastewater was directly discharged to the sewer line and the quality of the effluent was such that the water authority placed Pauls Dairy into the highest category for wastewater discharge fees.

The wash-down of milk vats caused the wastewater to be non-compliant with high levels of Biological Oxygen Demand (BOD) and Total Suspended Solids (TSS).

The non-compliant wastewater being discharged by Pauls Dairy had meant that they were incurring an average quarterly wastewater discharge expense of $25,000. During the 2 quarters prior to involvement with ACQUA, Pauls Dairy had incurred fines for non-compliant wastewater. $19,000 for a high TSS discharge and $38,000 for a combined high TSS and BOD discharge.

Solution

In conjunction with Pauls Dairy, ACQUA performed on-site testing at the Rockhampton facility, to determine the suitability and performance parameters of the Induced Cyclonic Separator (IC-SEP*).

ACQUA designed a fully automated wastewater treatment plant to process dairy effluent. The plant was successfully installed and commissioned with automatic pH adjustment to deal with the varying pH levels of the influent, which is typical of dairy processing plants. Coagulant and flocculant dosing was installed to assist in the removal of BOD and TSS. The extra air floatation provided by the IC-SEP* has allowed Pauls Dairy to use significantly less chemicals, thereby reducing their ongoing chemical costs.

Since the installation of the wastewater treatment plant, Pauls Dairy has been placed into a lower category of wastewater discharge penalties, lowering the average quarterly bill from $25,000 to $4,000.

Since installation in November 2002, the IC-SEP* wastewater treatment system has achieved the following results:

	BOD **mg/L**	**COD** **mg/L**	**TSS** **mg/L**	**Trade Waste Charges (Average/Quarter)**
Before IC-SEP*	877	4700	755	$25,000
After IC-SEP*	40	580	87	$4,000
Reduction (%)	95.44	87.66	88.48	84.00