

A Case Study;



Wastewater Treatment Plant Sancor-Cordoba, Argentina

Background

Sancor, an Argentine dairy processor, needed to build an up-to-date wastewater treatment plant for its yogurt manufacturing facility in Cordoba. The company hired Alenco International, a design/building firm in Longwood, Florida to accomplish the task.

Problem

Sancor has large waste loads consisting of medium strength wastes containing soluble, collodial and suspended solids. Most of the organic constituents in dairy wastewater are fats, proteins and carbohydrates. The primary source of wastewater is the flushing and cleaning of tanks, equipment and piping. Traditional dairy wastes have BOD concentrations too high for single-stage biological treatment that do not include physical/chemical pretreatment. Compounding the problem are high levels of alkalinity due to the ongoing disposal of cleaning solutions.



Besides mechanical bar screens, pH control and dissolved air floatation, a key component of the treatment design was waste-

water equalization.

In the equalization tank, the engineers determined that (2) 5HP (3.75 kW) TORNADO

Aerators were ideal for keeping the wastewater fully aerated and mixed during three to four hours retention.

The engineers determined that mixing and aeration in the 136,000 gallon (515 m³) extended aeration tank would be best accomplished with (4) 30HP (22 kW)

HURRICANE Submersible Aspirating Aerators. The self-contained aspirating aerators eliminated the need for blowers of blower buildings, simplifying plant design and operation. Furthermore, like the TORNADO Aerator, the HURRICANE Aerator's all stainless steel construction would stand up to the rigors of the particular application.

Since bringing Sancor's plant online in early 1996, the equip-

ment from AEROMIX has delivered the process and mechanical performance anticipated by the engineers at Alenco, who have subsequently used TORNADO and HURRICANE Aerators in other plants.



Solution

The engineers at Alenco International took stock of all these factors and designed a continuous-flow, extended aeration wastewater treatment system to handle a daily flow of 185,000 gallons (700m³) and a daily organic loading of 2,642 lbs (1,200 kgs) BOD.