

Case Study: Food Processing

Solution: AFC Thermophilic Membrane Bioreactor

Challenge

A food additives plant had raw wastewater characteristics that included 65 m³/hr (285 gpm) flow, 20,000 mg/L COD, high wastewater temperature (65°C), hot climate year round (on Equator), high salinity (TDS = 55,000 mg/L), high sludge disposal costs, and limited land available. The plant needed a process with a high reaction rate and low sludge production.

Solution

The BCS AFC system was implemented throughout the course of one year. This included treatability testing, basic engineering design, detailed mechanical design, supervision and review of detailed civil and electrical designs, providing all process equipment and instruments, operator training, and performance warranties. The plant had successful startup and initial operations in 2006.

Result

- In a March 2011 site visit, the BCS thermophilic biosystem was performing at original design expectations
- Membrane cleaning and replacement is less frequent than original projections
- No sludge generation in five years of operations
- Easy to operate plant due to no sludge dewatering
- The BCS solution was \$30 million less than the competition with one-half the footprint

