CLEAN WATER TECHNOLOGY

CASE STUDY

SAVORY PROJECT

INTRODUCTION

Clean Water Technology, Inc. is the creator of the Gas Energy System (GEM), the most advanced primary treatment system on the market. The GEM System provides superior reduction of total suspended solids (TSS), biological and chemical oxygen demand (BOD/COD), fats, oils and grease (FOG) and turbidity.

CHALLENGE

A renowned Bakery and Savory manufacturer in Southern California had just undergone its sixth expansion, leaving little room for wastewater treatment. Conventional technology was known to have too large of a footprint for the site. They needed a system that had a high level of chemical efficiency with little sludge production. Other technologies they researched had too large of a footprint for their site, poor chemical efficiency, and a history of sludge production that contained a higher water content with resultant high sludge storage, hauling and disposal costs. The Client embraced the GEM System as an innovative, expandable and sustainable choice.

TABLE 1: GEM Effectiveness at Bakery/Savory Facility

PARAMETER	INFLUENT	EFFLUENT	PERCENT REDUCTION
TSS	1,400 ppm	20 ppm	98%
COD	11,000 ppm	5,000 ppm	55%
Turbidity	2,000 NTU	25 NTU	98%

SOLUTION

Clean Water Technology installed the GEM System 20/75 that only required a 4' x 9' area. After CWT's initial laboratory analysis was completed and the System was designed, water conservation efforts within the facility raised the level of contaminants to 5 times that of the original design. Due to the flexibility of the GEM System, the increased solids loading was accommodated with simple modifications.

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FLEXIBILITY
Due to the expansion capabilities of the GEM System, the Client will benefit from flow increases up to 108,000 gallons per day (gpd) running on a 24 hour day.

EASE OF OPERATION
The Owner of the Company and his maintenance staff are now able to be more focused on their work as culinary experts, rather than spending valuable time, effort and finances on treating their wastewater.

Since the GEM System is outfitted with level sensors in each tank and automatic controls, the GEM System offers simplified operation such as:

- Automatic high and low level sensors for chemical mixing and dosing operations. As the low level sensor raises an alarm, it automatically stops all wastewater treatment processes of the GEM System in order to prevent damage to the chemical injection pumps. The high level sensor automates the water fill and mixing process. By pressing a button, the water-fill cycle will start. Once the tank is full, the water-fill cycle stops. This prevents accidental spilling of chemical on the operational floor.
- Chemical mixing is controlled with a timer. After a programmed period of time, the mixing process automatically stops and the wastewater treatment process will continue. This allows the operator to start the fill cycle, add the polymer, and then continue with other duties.
- Each pump comes with a special motor controller and encoder for controlling chemical dose rates into the GEM System. In order to set the dose rate, plant operations simply set the milliliters per minute via up and down arrows on the control panel interface.

ECONOMICS
In addition to expanding their facility and incorporating the GEM System, another issue facing the client was sludge removal costs. The GEM System produced much drier sludge (up to 22% solids) resulting in less sludge to store, haul and dispose.

SUMMARY
The Client continues to expand their facility while remaining in compliance.

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