

Bakery Saves US\$68,000 in Waste Treatment Costs with Continuous Cost Reduction Program

Background

A major baking company in southern California had received an ultimatum from the city government: treat your waste or shut the plant down. The main contaminant in the wastewater is dissolved oils from their baking lines. The waste treatment plant was built in-house at minimum cost, although it is very elaborate. The plant has 40 gpm (9 m³/h) of wastewater flow. The desired goal in building the waste treatment plant was to drop the FOG from an average of 3000 ppm (mg/L) down to 500 ppm (mg/L) or below. They had achieved that with a competitor's product and had been able to maintain the FOG <10 consistently.

Challenge

- **Clay:** The plant was using over 600 lb (270 kg) of clay daily. The clay was supplied in 50-lb (22-kg) bags and had to be mixed in a 300-gallon (1100-L) tank and fed continuously. Besides the high cost, the process was labor intensive. The treatment program would not perform if the plant personnel forgot or were unable to mix the clay. It was during those times that the plant was out of compliance.
- **Treatment product:** The original coagulant was provided in 200-gallon (790-L) bins that had to be replaced every two weeks, requiring handling with a fork lift into a very tight space.
- **Caustic:** Excessive use of caustic was required to meet the pH requirements for the effluent.
- **Sludge:** The sludge was 90% wet. The sludge removal cost was expensive and it was difficult to pump out of the holding tanks.
- **Poor program control:** There was no local representation by the incumbent water treatment supplier; therefore, program control and improvements were left up to the plant personnel.

Solution

GE Water & Process Technologies offered a trial to treat the wastewater. The goal was to make the waste treatment program less labor intensive, more forgiving and to reduce disposal fees. We achieved our goal with the combination of Entec KlarAid* CDP447 and PolyFloc* AE130.

Results

1. With our two-product program, we completely eliminated the need for clay, saving the plant over US\$30,000 annually just in the cost of the product.
2. Sludge volume decreased by 50%, saving over US\$25,000 annually.
3. Changes in the feedpoints for caustic and the coagulant resulted in better coagulation as well as pH control, reducing their consumption of caustic: Annual savings - US\$5,000.
4. The ChemSure* drumless delivery system eliminated the handling of drums and bins: Annual labor savings - US\$8,000.



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