

Controlling Odors Saves US\$180,352 and Makes Beet Sugar Plant a Good Neighbor

Challenge

This western U.S. plant processes sugar beets into sugar, cattle feed, high nutrient feed additives, amino acids and dust suppressants. Despite the company's past efforts at odor reduction and control through chemical treatment, the process still generated odors from hydrogen sulfide gas (H₂S) in the flume water system and pulp dryer stack plumes that were objectionable to the surrounding community. Some of the odors were also detrimental to working conditions in the plant.

Solution

The customer and GE Water & Process Technologies introduced ProSweet* OC series odor control products, as well as new treatment protocols, that inhibited H₂S production and chemically scavenged any residual odors in the beet water flume. A trial run was also conducted of treatment chemicals that neutralized naturally occurring odors in the pulp dryer stacks. The results were evaluated by measuring pH range, H₂S in the air and water phase, and chemical oxygen demand (COD) in the flume water. Clarifier microbiological counts were taken with a BIOSCAN* monitoring device.

Results

The treatment program was successful in all respects, eliminating flume water odor complaints and creating a better working environment. The progress of the plant's action plan for odor control, one year ahead of schedule, was recognized by neighboring industries and reported in favorable newspaper articles. The new process also required less lime and defoaming agents, and reduced the disposal of wastewater and solid waste, for a net annual saving of US\$180,352. Because of the favorable trial run results, the odor abatement program was expanded to include the pulp dryer stacks.



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