

Industrial Pond Treatment

This small municipality was experiencing difficulty in maintaining dissolved oxygen levels in their industrial ponds. During the processing season, they were receiving 3MGD of industrial wastewater from tomato and green pepper processors. During the previous season, they had been out of compliance on numerous occasions and received several complaints from the public concerning odor from the ponds.

PRAXAIR and IE and proposed a system of mixing pure oxygen into their influent ponds at a depth of six feet. This would ensure sufficient DO levels were maintained and allow reducing the number of aerators in operation. With fewer aerators running odor problems and electric utility charges would be reduced.



2005. On July 23, 2005 the system was placed in operation. Capital costs were around \$200,000.

The result was an increase in DO from 1.1 to 5.5 ppm using 5 tons/day of LOX and reducing the aeration horsepower by 300 hp, reduced odors to zero, and good operational control of the process like they never could achieve in the past. The facility has an increased capacity by 40% and will be able to reduce electric horsepower by an estimated additional 200 hp in the 2006 season.

The system consisted of a 13,000 Gal. Liquid Oxygen Tank and Vaporizer, four 15HP Medium Velocity Oxygenators (MVOs), an Oxygen Control Module for each unit, and the necessary main control panel, concrete pads, piping and electrical.

Integrated Engineers was selected to provide engineering design services, system integration components, and install the system. After initial site visits for planning, construction began on June 17,

