

## SKF sanitation district invests in energy efficiency

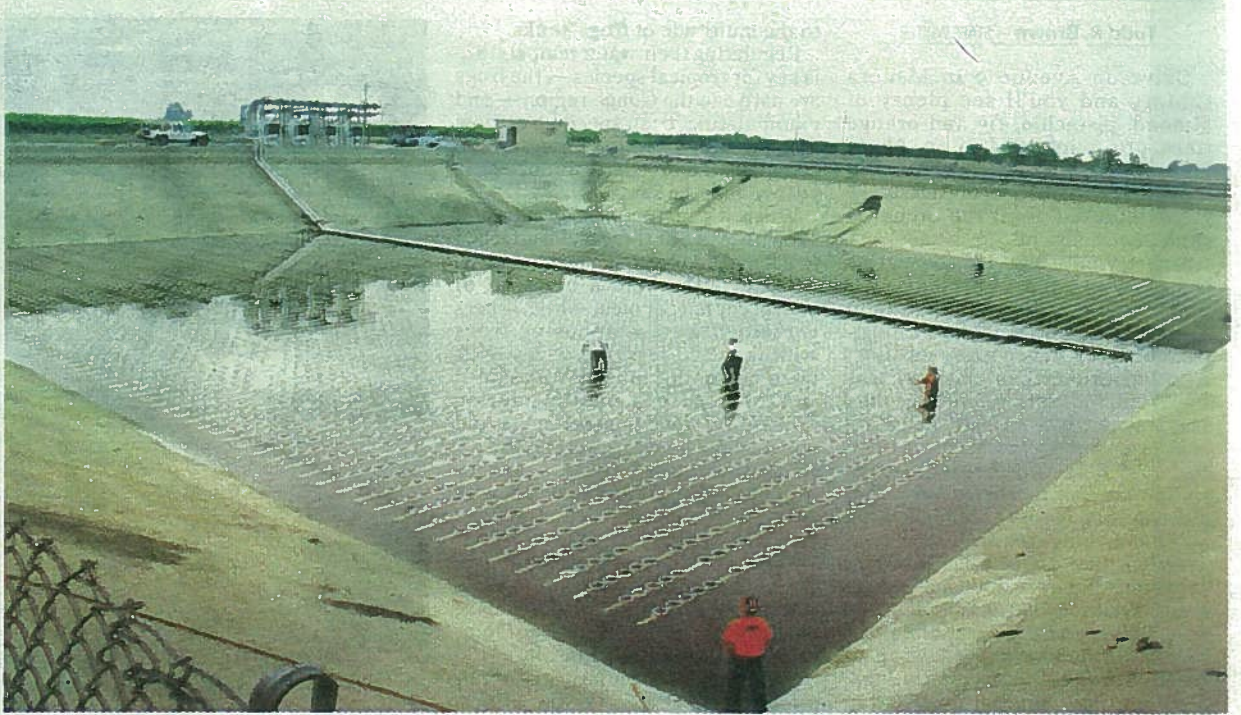
Ben Keller — STAFF WRITER

Wastewater treatment plants consume an estimated 21 billion kilowatt-hours every year, but with innovative upgrades to its central sanitation facility, the Fresno County cities of Selma, Kingsburg and Fowler are contending that the figure doesn't have to be that high.

Work finished late July on some crucial components of a project to improve capacity and energy efficiency at the wastewater treatment facility operated by the Selma-Kingsburg-Fowler County Sanitation District, which serves a population of 40,000.

Beginning in February, the facility, located on a 550-acre site just east of Kingsburg, underwent several massive renovations that are estimated to save more than 4.5 million kilowatt-hours of energy every year. An estimated savings of \$499,882 is expected to compensate the entire cost of improvements in just over 6 years.

"This project is also going to help stabilize rates," said the District's General Manager Ben Muñoz. "Our power bill will go from \$1.1



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The wastewater treatment plant serving Selma, Kings and Fowler was equipped with 9,184 Sanitaire membrane diffusers to transfer oxygen in the aeration basin.

million to around \$600,000 so we can stabilize our fees by reducing cost."

The facility's capacity is also expected to improve

beyond its original peak load of 6.2 million gallons of effluent a day.

The \$3.5 million project involved a number of aeration

system improvements like replacing the facility's diffuser system in one of the three aeration basins with new fine bubble

diffusers that produce small air bubbles to better transfer oxygen needed in the bacterial breakdown of  
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sewage.

The facility's existing blowers that deliver oxygen to the aeration system were replaced with four Neuros high-speed turbo blowers, a fairly new technology in sanitation that has been employed in Napa and Hollister but has not been used in the Central Valley up until now.

Additionally, backup systems that were formerly non-operational in two other aeration basins were restored while a new dissolved oxygen control system was installed along with a Supervisory Control and Data Acquisition (SCADA) system to monitor the facility's processes and historical trends where no such device carried that function previously.

The project was given high marks by Quantum Energy Services and Technologies (QuEST), which conducts energy audits for the California Wastewater Process Optimization Program (CalPOP) on behalf of Pacific Gas & Electric Co.

Designed to deliver cost-effective and persistent energy and demand savings to the wastewater sector, the program offers incentives to facilities that take initiatives to reduce their

electricity and gas consumption.

The incentive to the Selma-Kingsburg-Fowler County Sanitation District was a check for \$460,902 that will offset some of the project's cost. Furthermore, the project may also move the district to a better rate structure, from E-20 to E-19, after PG&E monitors it for a few months, equating to an additional ¼-cent savings per kilowatt.

"People are coming to look at our facility to do similar things and we're going to take this to CWEA (California Water Environment Association)," Muñoz said. "We're going to be doing a presentation to other colleagues saying 'this is available technology and this is what we did.'"

The city of Dinuba in Tulare County is also in the process of making energy efficient improvements to its wastewater reclamation plant. The city received \$611,000 from a low-interest federal stimulus loan in January to install improved motors, pumps, lighting systems and controls, all expected to save the town \$88,000 a year in energy costs.

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