



Improving Microbiological Control in Wastewater Treatment Saves Refinery \$700,000

Challenge

The wastewater treatment system at this South Korean refinery was experiencing poor settling, inadequate chemical oxygen demand (COD) removal, and prefilter pluggage. The problems were associated with filamentous bacteria, shock loading to the aeration basin and nutrient imbalances.

Solution

GE Betz provided both immediate benefits and long-term solutions. These included cleaning and sterilizing the final clarifier, adding polymer to improve settling and increasing the bacterial population in the aeration basin. To prevent future problems, the water flow distribution, dissolved air levels and chlorination procedures were improved, nutrients were monitored for proper balance, and wastage flow was increased in the final thickener. Analytical testing and technical support were also strengthened.

Results

The improvements made expansion of the waste treatment plant unnecessary, reduced treatment costs and conserved water. The recycled wastewater reduced effluent COD by approximately 50 tons (45.4 metric tons) per year. The net annual savings to the refinery were \$700,000.