



ROGUE

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CASE STUDY: Dairy Processing Facility
LOCATION: Modesto, CA USA
PROJECT: DAF Wastewater System Upgrade
GOAL: Reduce TSS and BOD discharge
WORD KEYS: DAF Upgrade, TSS and BOD surcharge reduction

FACILITY BACKGROUND

The Foster Farms Dairy Modesto facility processed milk into high quality dairy products and serving the local community. Production processing varied greatly throughout the day and week. Many years prior the firm had installed the wastewater pretreatment system at the Modesto facility to reduce city discharge surcharges imposed on TSS and BOD effluent loadings. The company found that operation of the DAF as supplied required frequent replacement of the aeration pump as well as yielding in-consistent results.



SOLUTION DESIGN

The old pump system needed addressing to better achieve the desired treatment results. The old pump was a centrifugal design producing mostly non-functional large bubbles. It was also corroded, being made of cast iron. The stainless steel DAF vessel was still in good shape.

RPC determined that replacing the existing aeration system with a new AISI 316 stainless steel Rogue **MAX RGT™** regenerative turbine pump, a DAF upgrade was the answer. The upgrade process entailed simply replacing the existing pump directly with the new Rogue **MAX RGT™**. The pump was positioned directly adjacent to the DAF effluent chamber. The design recycled effluent water through the pump and would achieve complete and consistent air saturation it in a single pass.



FINAL RESULTS

RPC had the pump delivered on time. The Foster Farms Dairy maintenance crew had the Rogue **MAX RGT™** pump installed quickly. The new DAF upgrade produced great results right at start-up. The Rogue **MAX RGT™** pump produced very fine 20-30 micron bubbles. These micro bubbles captured the large portion of insoluble solids and effectively floated them to the surface. TSS and BOD were now consistently removed throughout the day and week. Plant personnel found they had drier sludge solids as well. Significantly the DAF upgrade used less chemistry with much better results.



PAY-OFF

Foster Farms Dairy personnel are very satisfied with the DAF upgrade to the wastewater treatment system. Discharge surcharges paid to the city have been reduced. And the maintenance crew is spending far less time repairing and replacing the aeration system.

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By Stuart Ward