Dublin San Ramon Wastewater Treatment plant Expansion

Project Name: DSRSD WWTP Expansion
Location: Pleasanton, California
Consultant: Whitley-Burchett & Associates,
Contractor: Brown & Caldwell, Overaa Construction, and The Covello Group.

FluidIQs furnished a complete process control system for a significant plant upgrade and expansion by the Dublin San Ramon Services District (DSRSD). In Northern California, DSRSD provides water distribution, wastewater collection, and wastewater treatment for Dublin and Pleasanton, plus portions of the city of San Ramon. The District expanded its wastewater treatment plant capacity from 11 to 17 million gallons per day.

Building on an existing relationship as the District's control system integrator since 1995, FluidIQs was selected sole-source to join the project team to complete the $50 million expansion for this growing East Bay region.

FluidIQs programmed remote terminal units (RTUs), configured (or integrated) the human machine interface (HMI), designed and fabricated panels, and completed a witnessed factory test.

Technology integrated:

• DSRSD standardized on the Opto-22 LCM4 controller and SNAP-I/O for their control and data acquisition applications

• The treatment plant control system included eleven LCM4 controllers linked via a fiber optic ARCNET network, allowing high speed, deterministic data communication in both peer to peer and point to multipoint configurations, while the fiber medium provided noise-immune, long distance optical data transmission throughout the plant.

• The network included an Ethernet interface to third-party Allen-Bradley controllers for HMI monitoring. The systems architecture provided DSRSD with distributed process control among the networked controllers. FluidIQs configuration of the distributed control functions allows minimum disruption in the event of a power failure or a single controller failure.

Benefit

FluidIQs personnel were on site for most of this expansion writing temporary control code to help keep the construction ahead of schedule. Working closely with DSRSD staff and members of the construction team, FluidIQs was able to help the district finish this extensive expansion and upgrade ahead of schedule and under budget.

Major challenge

Plant processes were distributed across different power grids and controllers so that a single failure could not completely disrupt the plant. FluidIQs engineers accomplished this through planning and controller network communications.

The accelerated schedule required extensive temporary programming and control flexibility because multiple systems were being upgraded and expanded at one time. Working closely with plant operators and construction personnel, FluidIQs engineers were able to keep the plant running with minimal disruption to plant processes.