

SRCSD Partners with Emerson to Improve Operations and Reduce Costs with Ovation®

RESULTS

- 25% under overall project budget with the help of timely SRCSD and Emerson implementation
- \$5 million estimated savings by retaining previous I/O
- \$110,000 saved in testing and training costs using an on-site trailer
- Installed seven months ahead of schedule
- Flexible system design opened the door for future installation of an Ovation SCADA Server for improved communications with remote pump stations



APPLICATION

Control and monitoring of the 150 million gallons per day (MGD) primary and secondary wastewater treatment processes and a future SCADA system for remote pump stations.

CUSTOMER

Sacramento Regional County Sanitation District (SRCSD) Wastewater Treatment Plant located in Sacramento, California.

CHALLENGE

A five-year plan prepared by SRCSD identified the challenges associated with a rapidly expanding service area while meeting increased environmental regulations. Major changes to the wastewater treatment plant computer system were required to overcome these challenges. The facility's original process control system, installed in 1982, had several issues. Among other problems, it had no redundancy and no mechanism for automatic restart when power was lost.

With a talented team of in-house programmers and operators who regularly modified the system to meet the plant's needs, SRCSD kept it going for close to 20 years. When SRCSD set out to replace the aging process controls, plant managers knew its staff would only accept a centralized system designed and programmed through a true partnership with the supplier and engineering consultant — one that followed the rules of actual cooperation. SRCSD had two specific needs for the project. First, it wanted its staff involved in programming the new system, which would mean a contract with a large training component. Second, SRCSD wanted to minimize installation time — in water and wastewater treatment plants, control system installation can be lengthy due to the fact that the facilities must remain operational during the upgrade.

“When we did an evaluated bid process, Emerson’s technical and training expertise put them over the top. At first, I expected project delays, but we ended up cutting time from the overall contract. Overall, it’s just been great to work with Emerson.”

Bill Hendrix

Manager, Control & Electrical Systems
Sacramento Regional Wastewater Treatment Plant



SOLUTION

SRCSO enlisted EMA Services, Inc. of Sacramento as its contractor and selected the Power & Water Solutions division of Emerson Process Management as the third team member. SRCSO partnered with Emerson to modernize the aging controls while maintaining the previous investments in the I/O system. Emerson provided a technically sound solution by implementing Ovation® expert technology.

Ovation's ability to seamlessly communicate with third-party devices enabled SRCSO to keep their RTP I/O at each area control center intact, thus saving an estimated \$5 million. Ovation's connectivity also provided a direct interface to the Allen Bradley PLC Ethernet network, thus reducing costs previously associated with the purchase of additional equipment and wiring required to link the PLC points to the main system.

Ovation's trending function is of particular benefit to the plant's operators. Custom screens allow the operators to monitor process relationships that they couldn't previously see with the old system. For example, a live Ovation trend compares the plant's demand for power against its power usage, enabling more accurate purchase of power to meet requirements. Flexibility in the system design opened the door for the future implementation of the Ovation SCADA Server, which will improve communications with the plant's remote pump stations.

In an effort to streamline the project schedule, Emerson established a training facility and factory testing process adjacent to the wastewater treatment plant in Sacramento. The on-site facility eliminated air fare and living costs associated with trips to Emerson's headquarters in Pittsburgh, Pennsylvania, making it possible for the municipality to cut travel costs, provide flexible scheduling, and train more staff. This arrangement also enabled more Sacramento personnel to be involved in the system testing process, allowing additional hands on training and further exposure to the Ovation system.

Exceptional performance of the SRCSO team, with Emerson playing a key role, enabled installation of the new controls seven months ahead of schedule, thus contributing to SRCSO's ability to keep the overall project 25% under the budgeted amount.

Emerson Process Management

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"The plan to bring the training facility and factory floor to Sacramento allowed us the luxury of training 16 of our own people right on site on the exact equipment they would be using in the plant. We got more people trained for our money invested."

Bill Hendrix

Manager, Control & Electrical Systems
Sacramento Regional Wastewater Treatment Plant



Dual CRT flat panel Ovation® Operator workstations are used to efficiently monitor and control the Sacramento Regional Wastewater Treatment plant processes.

