



PROJECT PROFILE

Valencia Water Reclamation Plant *Los Angeles County Sanitation District*

Client background

The Valencia Water Reclamation Plant, part of the Los Angeles County Sanitation District (LACSD), serves more than 130,000 people. The plant provides primary, secondary, and tertiary treatment for up to 21 million gallons of wastewater per day. Schneider Electric Energy and Sustainability Services (ESS) was contracted to reduce the plant's energy costs.

Project background

ESS conducted a thorough energy audit of the Valencia plant and identified multiple energy conservation measures, each treated as a separate project. Project scopes ranged from full system upgrades and implementation of advanced process control software to replacement of motor control centers. LACSD approved several upgrades based on projected energy savings and attractive return on investment. Many measures required control system and control panel upgrades. ESS designed modern solutions that included new programming approaches and a real-time control system, or RTC. The RTC sits above the SCADA and PLC layers, uses live control-system data, and makes higher-level decisions to reduce energy use and to improve process conditions. The RTC automatically adjusts key control set points to optimize performance. The ECMs aligned with LACSD's new plant standards for hardware and software, which helped justify and standardize the upgrades across the facility.

EA solution

Enterprise Automation joined the project as a controls and instrumentation consultant to support design and construction. As an extension of the ESS engineering team, EA reviewed OEM designs, developed the commissioning master plan and schedule, and coordinated contractors. As the work progressed, EA expanded its role to perform development tasks: engineers authored and revised PLC programs and created new SCADA screens. To meet LACSD's updated standards, EA implemented PlantPax, FactoryTalk, and Studio 5000 templates, delivering consistent programming and graphics and adding value and operational knowledge to the project.

Project Manager



Matt
Avila

Project Technical Lead



Zack
Gentry

Key Insights:

- Performed design assist services on alternative delivery project
- Replaced legacy-DCS system and implemented client's SCADA & PLC Standards based on the PlantPax object library
- Implemented model-based control scheme to maximize energy efficiency within the aeration basins

Key Technologies:

- PlantPax
- FactoryTalk
- Studio 5000