



# City of Santa Ana, CA

## Water SCADA System Upgrade

**Client: City of Santa Ana, CA**

**Location: Santa Ana, CA**



### System Features

- DYNAC ES Software
- Ethernet Spread Spectrum Radio
- Remote Monitoring
- Dual Redundant Servers
- RTUs



The City of Santa Ana, CA obtains 90% of its water supply from wells distributed throughout the City and the other 10% is purchased from the Metropolitan Water District of Southern California (MWD). The water is stored and/or transmitted using pump stations and regulating valves through the City's pipeline infrastructure to its residents.

Transdyn recently completed an upgrade of their Supervisory Control and Data Acquisition (SCADA) system to monitor and control water supply, treatment, storage and distribution facilities throughout their service territory.

Design of the new SCADA system began with discussions with City staff as part of a needs analysis to determine operational, control, and monitoring requirements of the City's Water Resources Division. A communication study that followed recommended the use of an Ethernet spread spectrum radio communication network with Ethernet PLC based RTUs as part of the turnkey SCADA system upgrade. Both the analysis and the study considered lifecycle/cost, existing conditions, future needs, latest technology, and other features that will best benefit the City and the water operations. By switching the communication system from lease telephone lines to radios saves the City approximately \$10,000 a month.

The final design of the SCADA system and the new communication network meets the City's goals of having a reliable water operations SCADA system that improves operation, maintenance, customer service, and provides 24/7 rapid response to emergencies. The SCADA system also generates operational data that is used by engineering staff for planning and improving the City's water system infrastructure.

The SCADA system is managed by DYNAC® ES SCADA software and runs on dual redundant servers. If a primary server fails, the functions of the failed server switch automatically and seamlessly to the standby server without affecting the continuity of the system operation, thus maximizing SCADA system performance and providing high level system reliability and availability.

The state-of-the-art radio communication network consists of remote sites equipped with spread spectrum radios which vastly improves system data throughput, allows peer-to-peer communications between remote sites and allows remote DYNAC® ES SCADA workstation sessions at each site.