



INDIAN HEALTH SERVICES, WHITERIVER, AZ WATER TREATMENT FACILITY

WHITERIVER, AZ

Quantum Integrated Solutions was given the challenge to develop the controls and a supervisory control and data acquisition (SCADA) system for Fort Apache Indian Reservation's water department in Whiteriver, AZ. The project was under the direct supervision of the U.S. Department of Health and Human Services and was designed to filter river water and distribute it to a community that was on a verge of a water shortage. Quantum was given two months to design four panels and deliver the basic controls and interface to perform a factory acceptance test (FAT) on four PLCs, one OIT and SCADA system. Upon completion of the system Quantum deployed controls to pump water 5,000 feet up hill to two filters that can filter fresh river water at rate of 600 to 1400GPM.

RIVER INTAKE

Quantum deployed one PLC to implement supply and demand controls for three pumps. Some of the pump controls allowed the operator to determine pump speed, flow rate, and pump rotation to ensure equal runtime on each pump. Additional information was collected on various equipment statuses and instrumentation information. All the river controls and status information was messaged to SCADA over two licensed radios.



FILTRATION FACILITY

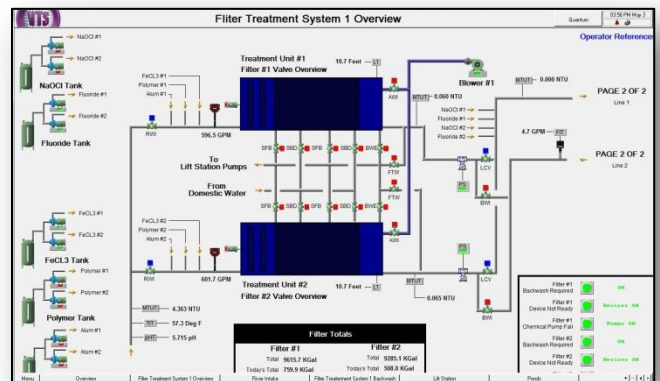
Three PLCs were programmed to provide automated control to the filtration facility. Programming included automating two VFD backwash pumps, two lift station

pumps, 10 variable speed chemical pumps, 18 motor operated valves and one blower. Real time data was collected on various instruments to develop numerous controls that including filtration and backwash controls. Screens were designed for both an OIT and SCADA to provide operators with the ability to check the status and controls of the filtration facility.



SCADA SYSTEM

Quantum designed a SCADA system that provides operators the ability to control the filtration process manually or automatically. Operators have the ability to trend and generate reports on the various instrumentation and equipment. Additionally, an internet client and alarm dialer were installed to provide operators the ability to work remotely.





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CONTROL EQUIPMENT

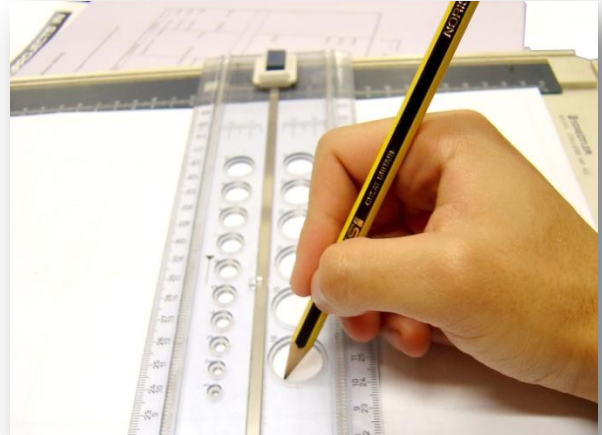
Quantum can evaluate, design, fabricate, install and configure necessary equipment for a wide range of process control designs.

- ✓ Instrumentation
- ✓ PLC Control Panels
- ✓ Motor Control

ADDITIONAL SERVICES

Quantum provides many additional industrial automation applications. Listed below are some additional engineering services provided by Quantum.

- ✓ Radio Surveys
- ✓ Industrial Energy Audits
 - Search for qualifying energy rebates
- ✓ SCADA and HMI Support
- ✓ SCADA Video Surveillance Design and Installation
- ✓ Process Control Training
- ✓ Secure internet access to project backups – 24/7
 - Design Drawings
 - Programming codes
 - Operation and maintenance manuals
- ✓ Fiber Network Design
- ✓ Computer Aided Drafting (CAD)



CERTIFICATIONS AND AFFILIATIONS



MAJOR MARKETS SERVED

Mining



Water/Wastewater



Renewable Energy



Semiconductor

