



## U.S. BUREAU OF RECLAMATION

### U.S. BUREAU OF RECLAMATION – YUMA, AZ

Quantum Integrated Solutions designed, developed and implemented this 2008 SCADA network and communications project for the U.S. Bureau of Reclamation in Yuma, AZ. The project entailed the electrical engineering development and selection of network and radio hardware components, creation the PLC code and HMI screens, integrate the radio system and provide integrated engineering startup for the entire system. The radio and network configuration for the project has over 300 PLC's all communicating to the Intellution system via Spread Spectrum, UHF and Microwave communications. After receiving the data at headquarters, it is then sent via fiber routers and LAN to the various workstations in the plant. The computer system consists of (8) workstations and servers setup in hot-standby condition. Quantum's engineering, design and software contract value with the B.O.R. was over \$1.1M.



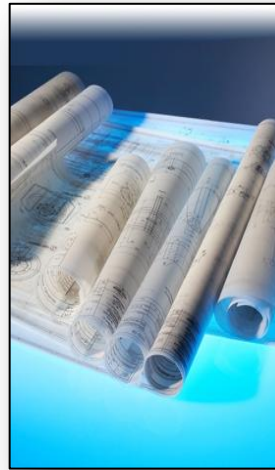
### CONTROL EQUIPMENT

Quantum integrated the following systems, and sensors into the overall SCADA network system.

- ✓ Instrumentation – Flow, Salinity and Level
- ✓ PLC Control Panels
- ✓ Solar Panel Powered Panels in Remote Locations
- ✓ Motor Control

### ENGINEERING, MANAGEMENT & DESIGN SERVICES

Quantum provided for this project a variety of management and engineering design services for the project:



- ✓ Project Construction Management
- ✓ Electrical Engineering Design Services
- ✓ Radio System Design
- ✓ Computer System Design and Selection
- ✓ Project Software Development
- ✓ Systems Integration Radio Systems / Networks
- ✓ Industrial Networking Design

### PROCESS CONTROL SERVICES

Quantum developed the entire software system for this project:

- ✓ SCADA design
  - GE Intellution – iFix / iHistorian
- ✓ PLC Systems & Programming Design
  - Modicon
- ✓ Industrial Network Design
  - Ethernet
  - Wireless – Radio & Microwave
  - Fiber network integration to radios

