

Almería Water

Remote Control System for public water distribution network

Remote control system for Almería Water Utility. Remote control of drinking water transportation and distribution, and waste water transportation networks

ABB has implemented a remote control system in Almería (South East Cost of Spain), that controls the complete water distribution network, starting from the water production (wells and desalination plant output), water treatment, water transportation and reservoirs, water distribution inside the city (sectorization) and wastewater networks to the wastewater treatment plants.

This remote system is controlling around 60kms of the Spanish coast in a very populated area giving a quality service up to 400.000 people during the summer period.

Main project started in 2008 and finished at beginning of 2011 and includes:

- Upgrading of electrical installations in reservoirs and pumping stations to actual requirement of the new law, and relevant certification.
- Supply, installation and commissioning of:
 - Low Voltage cabinets for pumping stations and reservoir (drives, softstarters, switches, valve inverters, ...)
 - 48 RTUs AC500 PLC based for local automation and remote control of drinking and sewage water transportation nets
 - 76 RTUs for data acquisition and flow regulation of urban water distribution net (sectorization)
 - Water instrumentation (flow meters, pressure transmitters, quality analyzers, ...)
 - Electricity electronic meter and electricity analyzers, communication equipments, field buses, ...
 - 2 control centers (equivalents in two different situations and both can control full installation). Each one with its own communication front end, SCADA servers, and operator stations. Both linked by a safe ADSL link.
 - 2 Communication Front Ends PLC AC500 based
 - 1 Show Control Room, including a video wall (3x2)



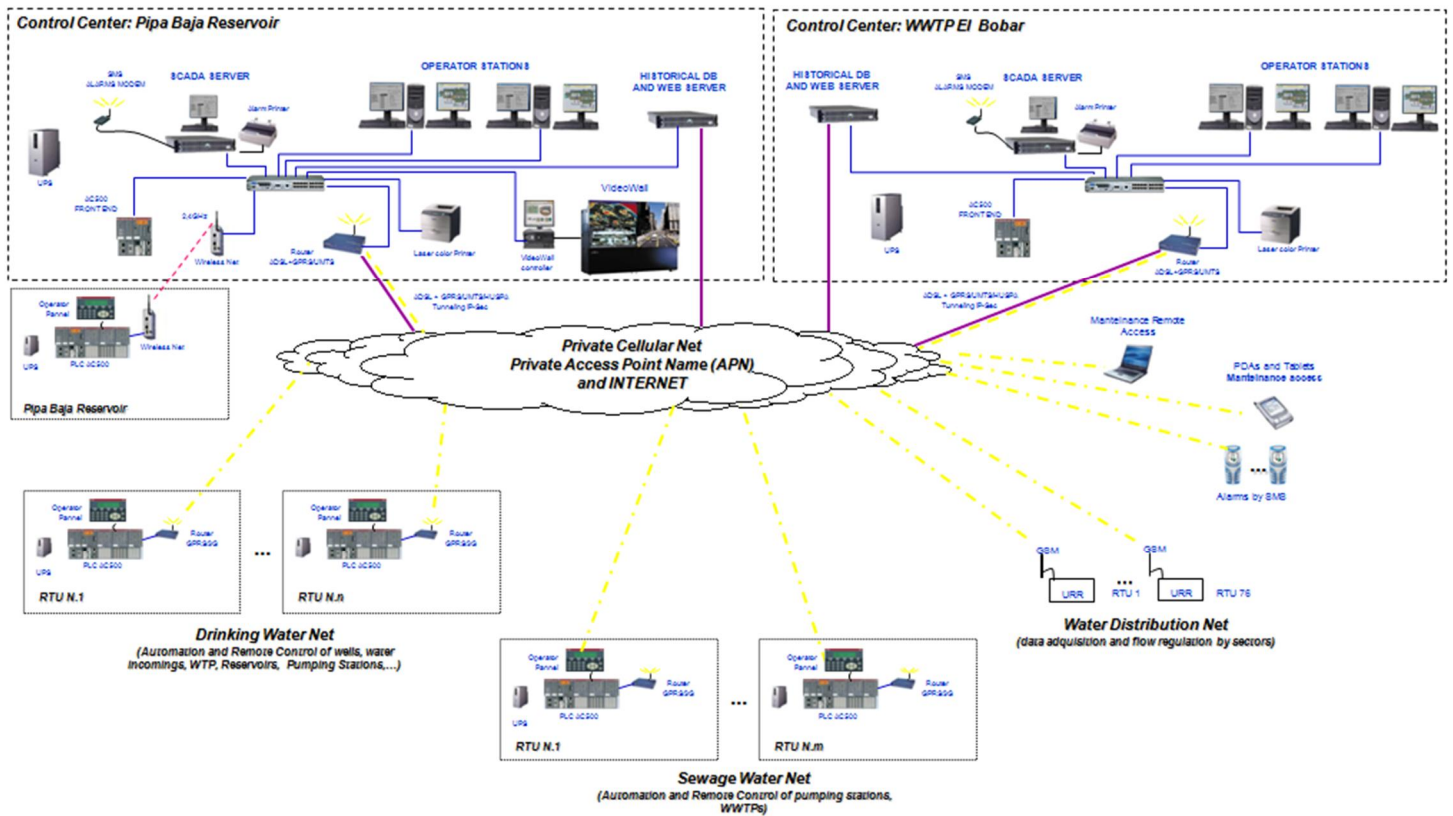
- 1 Information point (web access to SCADA) based on industrial PC
- Engineering, implementing and commissioning of:
 - A communication net base on cellular IP digital telephony GPRS/UMTS/HUSPA
 - PLCs software for local automation, data collection, and communication strategy
 - SCADA system, in two equivalent SCADA centers, with close to 40.000 variables each
 - A relational database for history logs and reports
 - Web application for remote data visualization

Benefits:

- Upgrading of full electrical installation
- Control, data and real time information of full integral water cycle
- Instant alarm reception in control centers, and SMS to maintenance department
- Energy control and savings in pumping stations. Electricity bill simulation
- Better quality of water and service to customers
- Security of the installations and control of maintenance staff
- Reduction of water leakages and the number of breaks
- Optimization of water infrastructures
- Better knowledge of water distribution networks and its problems, user water consumption patterns and tools to predict future demands.

Remote Control System

Drinking water transportation and distribution networks. Sewage water network



Remote Control System of Almeria Water Utility

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SCADA Views

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