Water Treatment >>>>
Siu Ho Wan Backup Telemetry System
Davenham Engineering Limited

- Use Allen Bradley PLC 5 w/ControlNet capability (~300 I/O)

- Provide the newest available communication media - ControlNet.

- Provide the backup telemetry system for monitoring the water level in the remote stations.

- Three remote stations communicate with the main PLC processor through leased line modems, and then via ControlNet back to the control room.

- Operators are able to read the data through the SCADA system that we designed.
Au Tau SCADA system Y2K upgrade
Davenham Engineering Limited

- Use Allen Bradley PLC 5 processor (~250 I/O)
- Provide a new SCADA system to replace their existing old SCADA system in order to be Y2K compliant.
- Provide operator workstation which is Y2K compliant as well.
- Provide a programming tool in order for operators to modify the ladder logic as per required.
Pak Kong Water Treatment Plant

Davenham Engineering Limited

- Use Allen Bradley SLC 500 processor (~350 I/O)

- Using the Y2K compliance solution to replace the existing system and reduce the process time.

- Replace their existing equipment with the Allen Bradley solution.

- Interface with the local PID controller and timer, which enable the operator use the external device to control the flow and time for the filter process.
Use Hot Standby Allen Bradley PLC 5, SLC504 Processor, DH+ Network (~ 1300 I/O)

By using hot standby PLCs to ensure the plant to run in non-stop operation.

Using the Y2K compliance solution to replace the existing system and reduce the process time.

Replace their existing equipment with the Allen Bradley solution.

Interface with the local PID controller and timer, which enable the operator use the external device to control the flow and time for the filter process.
• Use Allen Bradley PLC 5 (~300 I/O)

• Provide the telemetry system for remote control of the 4 outstations valves on/off control.

• Provide the telemetry system for monitoring the water level in the remote stations.

• Four remote stations communicate with the main PLC processor through leased line modems, and then via DH+ back to the control room.

• Operators are able to read the data through the Realflex SCADA system
- Use Hot Standby Allen Bradley PLC5 CPU w/ControlNet Network (~500 I/O)

- Use the open architecture ControlNet as the communication backbone.

- Provide fast data communication - 5Mbit/second with true redundancy media.

- Provide monitoring and controls for the reservoir signal and alarm status.

- Provide SCADA mimic for monitoring in PanelView by telephone line signal.
• Use Mitsubishi PLC processor (~700 I/O)

• Pure Water Treatment process for Tian-Ji area.

• Provide the Control Console for the Central Control Room.

• The Treatment processor can run automatically with monitoring from MMI package.

• Provide Moasic Tiles Mimic to indicate different equipment.

• Provide PLC/SCADA programming, installation and T&C for the pure water treatment plant.
Design, Supply, Delivery, Installation, T&C of all equipment and all necessary ancillaries for PLC and SCADA system.

There are 3 Pumping Stations:
(a) The Irrigation Water Pumping Station (IPS) – Located in the Utilities Yard of the Penny’s Bay Development Area
(b) The Irrigation Booster Pumping Station – Located adjacent to the CLP Power Station at the Penny’s Bay Development Area
(c) The Yam O Landscape Irrigation Pumping Station – Located adjacent to the Yam O Sewage Pumping Station
Infrastructure for Penny’s Bay Development
Mechanical and Electrical Works in Irrigation Pumping Stations
Contract No. CV/2000/09
• Use Siemens S7-300 and Allen-Bradley SLC-503 PLC

• Modified existing Wonderware Intouch Water Quality Monitoring System

• Implemented a MegaLink network to connect five SCADA systems in various remote WSD locations

• Re-programmed all existing Siemens & WQMS computers; T&C to replace the existing SCADA system.
Replacement of Monitoring & Control Equipment for Filters at Sheung Shui Water Treatment Works

Contract No.: WSD/ST 450/06

HK Water Supply Department

- Use Allen-Bradley SLC-505 PLC & Intouch software
- Replace & upgrade existing PLC & control panels
- Monitor & control treatment plants, network management, collect & store operating information
- Implement a fast Ethernet (100 Mbps) fiber optic redundant network

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GPRS Back up modem Remote Terminal Units

In case the communication of the main RTU fails due to poor weather or hardware failure, the backup system provides the essential Telemetry signal to control centre for back up monitoring and control.
This project involves using Allen Bradleys SLC processors to monitor and control various systems that were previously controlled by relay logics.

Control systems include:
- Stage 1 Filters (10 sets) – Control and monitoring
- Stage 2 Filters (12 sets) – Control and monitoring
- Wash Water Recovery System 1 (3 tanks) – Control and monitoring
- Clarifier system (4 tanks) – Control and monitoring
- Sludge Plant – Control and monitoring
- Chemical system – Monitoring only
• Use Allen-Bradley PLC and software to replace the Bailey DCS system
• 12 Set SLC system is used to control and monitoring the Plant operation.