

## **Ministry of Public Works Project No. SE59 Automatic Control & Monitoring of Irrigation System**

### ***The Client***

The Kuwait Ministry of Public Works (MPW) manages the majority of the State's projects for the construction of buildings and development of infrastructure. MPW are responsible for the maintenance of sanitary drainage, establishment of pumping stations, and water treatment facilities that are used in cultivating greenery.

### ***Project Overview***

This project has been implemented for the Ministry of Public Works in Kuwait. The main objective of this project is to transfer 100,000m<sup>3</sup>/day of reclaimed water from the Data Monitoring Centre (DMC) to Abdaly farms for irrigation and also feed the water for various distribution points along the roadside.

There are 13 off distribution points along Abdaly road and two distribution/irrigation points that are equipped with control and instrumentation for remote control of effluent flow to these areas.

### ***The Solution***

The System Integrator who successfully implemented this project in 2003 was Cimac International (United Arab Emirates) based. Kingfisher Series II RTUs were used for both front end processors (FEP) to handle the UHF radio communications and the slave RTUs at Abdaly reservoirs.

The DMC pumping station, irrigation distribution stations and Abdaly reservoirs are all equipped with instruments, Allen Bradley PLCs for the chlorination system and Kingfisher RTUs, SCADA and Trio Communications UHF radio equipment.

The FEP RTUs at the reservoir sites and DMC Control Centers are connected to the iFIX SCADA system using a TCP/IP Ethernet LAN.

The irrigation stations consist of Kingfisher LP1 RTUs for control and monitoring of flow to the respective distribution points. RTU and flow meters at each distribution point are powered by a BP solar system. Supervisory control and monitoring of these sites is possible from Abdaly, DMC and R25 Control Centers.

Kingfisher RTUs were selected for this project because of their excellent environmental characteristics, and this being paramount for the Kuwait weather conditions. All Kingfisher RTUs are rated up to +70oC @98% humidity (non-condensing), making them highly suitable for harsh desert like conditions.