

Application Note

Project Images



Client

BP Australia,
Luggage Point, Qld, Australia

Application

PLC and SCADA Based Control System to control the plant supplying production water to BP Australia's BP Amoco refinery

Project Description

The contract was awarded to the John Holland-Purac Consortium who assigned in turn Sydney's Tech Control Systems, a business unit of Itech Corporation, to provide the necessary control system.

The project requires the production of 14 megalitres of industrial grade recycled water a day from secondary sewage effluent. The engineering solution is a unique combination of micro filtration and reverse osmosis treatment, and the process is operated by a sophisticated control system designed and installed by Itech. The biggest challenges faced were not only the very high water-purity quality required, but also the fluctuating demand by BP, which required that product water demands between 10ML and 14ML a day could be called for at any time. A further condition was that the plant be expandable to accommodate an increase to 17ML per day in the future.

It is the second time such a project has been undertaken in Australia, and, following its successful completion, has become the largest of its type in the Southern Hemisphere.

The control system software developed by Itech involves a supervisory control and data acquisition system that allows for a complete overview of every stage of the process, and monitors and reports on the performance and status of critical processes and equipment of the plant.

The data provided by the control system allows a broad overview of the entire plant, detailing the flow and status of each area. It is also capable of drilling down to isolate individual equipment, providing detailed information regarding performance, condition and maintenance requirements.

The system architecture involves a Citect-based SCADA communicating on Ethernet with Allen Bradley's small logic controller acting as supervisory PLC. Individual units (MF & RO) have their own dedicated Allen Bradley Micrologix range of PLC's communicating with the supervisory PLC on Devicenet network backbone.

Ken Lewis, the Project Manager assigned to the project by Purac, (previously Anglian Water), comments; "From our previous experience working with Tech Control Systems/Itech we had no hesitation in inviting them to work with us on this project. Once again they were able to put together a control system design that satisfied all of the tender criteria."