



Client: Ministry of Work
Location: TWPCC, Tubli, Bahrain
Ref. No.: BAH/2005/03/009

009 – DESIGN AND MAINTENANCE OF SCADA SYSTEMS FOR TWPC

Background

This Contract is part of the Facility management of Tubli Water Pollution Control Centre (TWPCC). It comprises management, maintenance and supervision of the SCADA hardware and software including programming upgrades and modifications of the existing facilities for the entire network. Cellmec has been successfully managing the system over the last sixteen years by winning the contract on every two-year basis.

Case Study/Scope of Work

TWPCC has three treatment stages. The primary treatment stage comprises of screening, grit separation and flow equalization system. The secondary treatment stage comprises of aeration system, clarifiers, screw pumps for return sludge, thickeners, sludge transfer pumps, sludge treatment and sludge handling equipment. Both sections primary and secondary all together called as secondary treatment plant and handling daily capacity approximately 300,000 cubic meters of raw sewerage. Sludge treatment consists of sludge dewatering, sludge drying, sludge pelletizing and packaging.

Tertiary Treatment Plant is design for constant handling of approximately 200,000 cubic meters per day of secondary effluent. Tertiary filters composed of dyna sand filters. Each filter is designed to filter at a rate of 10 m³/hour and filter beds has an area of 55 m². Therefore, the average filtration rate per filter is 550m³/hr. This Plant is accompanied with Secondary Pumping Station, Balancing Lift Station, Filtration System, Treated Effluent Pumping Station and Chlorination Plant. The ozone generation plant is rated with a capacity to provide full ozone demand to treat an average secondary effluent flow of 200,000 m³/day at ozone dosage rate between 7mg/l and 12mg/l. Each ozone generator has capacity of 48 kg/O₃/h.

The Tubli Water Pollution Control Centre (TWPCC) is currently capable of producing approximately 200,000 cu. m. of Treated Sanitary Effluent (TSE) daily. The SCADA Software is based on National Instrument's Lookout 5.0 & National Instrument's LabView with LPUs from PLCs: Schneider Electric, ABB, Mitsubishi

