

**CLIENT:**

Rockhampton Regional Council

LOCATION:

Rockhampton, QLD

SERVICE:

Water Supply

CAPACITY:

100ML/day

CONTACTS:

Martin Willemse
Brendan Bell

SOLUTIONS:

Complete electrical upgrade including pump drives, new HV and LV switchboards, electrical installation, intelligent pump coordination.

SYSTEM SETUP:

AB CompactLogix distributed PLC control system, Powerflex 755 80kW VSD's (4), ECOSine 200A & 300A Active Harmonic Filters (4), 3511KVA step-down transformers (2), 11KV Switchboard, 5000A rated LV Switchboard

COMPLETION DATE:

January 2014

Glenmore Water Treatment Plant High Lift Pump Station Upgrade, Stages 1 and 2

Aquatec Maxcon and MPA Engineering delivered the Glenmore Water Treatment Plant HLPS upgrade for Fitzroy River Water, a branch of the Rockhampton Regional Council. The planned upgrade allowed the pump station to meet capacity and reliability requirements foreseen for the next 20 years.

During design stages 1 and 2, there was a projection of 15-20% power savings for the upgrade.

Key features of this upgrade include:

- Achievement of 27% power savings to the council from the upgrade, which results in significant running cost reduction and reduced maximum electrical demand.
- Four new remotely controlled Allen Bradley Powerflex 750-Series 800kW VSD's.
- Four new Schaffner ECOSine Active 200A and 300A Active Harmonic Filters (AHF's) for power correction.
- Completely new 11kV switchboard serving as a distribution point for high voltage supply to the water treatment plant, low lift pump station and high lift pump station.
- New 5000A rated low voltage switchboard for supply to the four new pumps, as well as emergency backup to the WTP and low lift pump station.
- Two new 3500kVA step-down transformers capable of separated supply to the new LC switchboard.
- Connection of 1250KVA Diesel generator to HV switchboard through new step-up transformer.
- Distributed control system with single coordinating PLC running an optimised pump efficiency algorithm and four local PCS's for redundant control and monitoring of pump and motor safety equipment.
- Integration into the existing WTP SCADA system for complete operator remote control and monitoring of pumps and output status.

The new distributed control system programmed by MPA Engineering allows the coordinating PLC to run the pump station at its peak efficiency levels for the required flow output, greatly minimising the electrical demand and reducing the monthly power bill.

