

Inete Case Study: Condition Monitoring Remote Plant

The Project

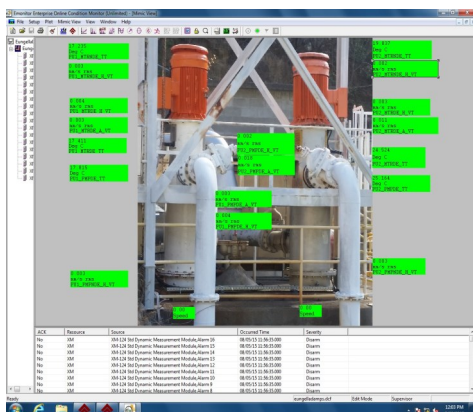
Constructed in 1970, the Eungella Dam Pump Station supplies the Eungella Pipeline which pumps water approximately 120 km to the Moranbah Pump Station. This pipeline provides water via multiple offtake points to a number of the Bowen Basin Community stakeholders.

The two 200 kW pump sets, installed as part of the Eungella Dam Pump Station, are controlled via PLC (managed from a local SCADA HMI), and provide 1 x DUTY, 1 x STANDBY operation only.

Given the remote location of the plant, the high availability requirement of the asset, and lengthy delays for repair / replacement in the event of a failure, a continuous condition monitoring capability was tendered; to provide a detailed level of plant health, providing plant owners the ability to identify failures and plan pro-active maintenance in advance.

Further to the monitoring requirements of this project, an upgrade to the SCADA, PLC and communications architecture was required to ensure reliable, robust communications is established for the remote monitoring of the system in real-time.

A number of technology standards were specified by the client, aligning the implementation with current technology in use across the business, which included:



- AB Compact Logix PLC;
- Citect SCADA;
- DeviceNet IO Modules;
 - XM-124;
 - XM-361.
- DeviceNet Scanner / Gateway;
 - 1769-SDN;
 - 1788-EN2DN.
- Emonitor Odyssey;
 - Including Mimic Screen (left)
- SQL Server Database;
- Emonitor Web Client.



Project Overview

Project

Eungella Dam Water Pump Station
Condition Monitoring Implementation

Location

Eungella Dam; 100 km NE Moranbah &
80 km West of Mackay

Infrastructure

- Two x 200 kW vertically oriented pump sets;
- Controlled via local SCADA / PLC;
- IP Radio Communications to operational servers.

Project Scope

Monitor two complete pump sets for:

- Vibration;
- Temperature;
- Speed.

Collect data & Annunciate Warnings and Alarms via

- SCADA / PLC control;
- Emonitor Odyssey / Web Server.

Control of pumps for fail-safe operation on exceedances of alarm set points defined within SCADA.

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