



MAGELLAN POWER CASE STUDY

BP KWINANA

The former Kwinana Refinery, operated by BP, was sited on the shore of Cockburn Sound at Kwinana, near Fremantle, Western Australia. At the time it was the largest oil refinery in Australia

Magellan Power were approached by BP and Worley Parsons to offer the best solution for design, fabrication, configuration, inspection, testing and documentation of the Interruptible Power Supply (UPS) to be installed for the Alky Upgrade Project at the BP Refinery in Kwinana Western Australia.



Client
BP Kwinana

Date
March 2015

Location
BP Kwinana Refinery

Scope of Project
Supply of AC UPS Systems



Client Requirement

Magellan Power worked with Worley Parsons in order to understand site requirements, and the best solution to provides ultra-reliable uninterruptable power supply for critical loads.

For this project Magellan used 2 x 60kVA 3Ph/3Ph Inform (Legrand) PDSP UPS systems with static bypass input, rectifier input and output galvanic isolation transformers and a step down transformer on the output which reduced output voltage to 110VAC for some special loads.

Battery bank was selected to provide power for full load not less than 30 minutes. Magellan used 62x55Ah battery to achieve required back-up duration. The Battery bank was placed into a fully sealed battery enclosure due to gas emission restrictions inside the switch room. Natural ventilation in the cabinet has been achieved by using inlets and outlets which travel outside of the switch room.



Major Components

Features of 60kVA PDSP Uninterruptable Power Supplies are:

- High reliability, high efficiency
- Double conversion
- Parallel operation, up to 4 units.
- Built in optional input isolation transformer
- Micro controlled with state of the art functionalities
- High input power factor, low input THDi and low output THDV Modbus, profibus.

Scope of Work

- Documentations as per the schedule given.
- Calculations for air ventilation and back up duration
- Room layout drawings where 2xUPS, 2xBattery bank, 3xIsolation transformer enclosure was shown.
- Modification of the 60kVA systems and installation of isolation transformers for full galvanic isolation on all inputs and outputs.
- Factory acceptance testing of the Ups systems where functionality tests and full load testing for 12 hours had been undertaken.
- Full load back up test for 30 minutes.
- On site commissioning of the systems and preparation of site specific emergency operation manuals.

