

CENTENNIAL COAL – RELOCATABLE SWITCHROOM

Case Study

Customer

Centennial Coal – Springvale Site, NSW

Background

This relocatable switchroom, which was delivered to the Newnes Plateau, is designed to run a 4kV variable frequency 700kW submersible borehole pump at a depth of 390m with an output flow rate of 100 litres per second.

The Equipment

Ampcontrol was contracted to design, manufacture, assemble and test the switchroom along with commissioning the high voltage switchgear and Toshiba VVVF Drive System.

The Centennial Coal Springvale site has traditionally experienced major, widespread underground water issues. The Ampcontrol switchroom therefore needed to be relocatable, allowing for power supply to support the pumping of water in a range of locations.

Achievements

- As an expert in hazardous area design, Ampcontrol developed the switchroom with the borehole in mind, which extended through the mine coal seam. For this reason the borehole was considered a Group I Hazardous Area.
- Explosion protection was a design requirement for the borehole and pumping operations. The protection technique is based on Ex p (pressurised) and involved air purging and continuous monitoring.
- Monitoring equipment to achieve Ex p reached a rating of SIL 2 high demand monitoring of the hazardous zone.



- This is the first in a series of switchroom designs for this site. Additional units are due to be designed and delivered to the customer in coming years.