

Timaru 11kV Switchboard Replacement - Electrical Site Works

Project: Timaru 11kV Switchboard Replacement - electrical site works

Client: Transpower NZ

Location: Timaru Substation

Contract Value: NZ \$1,600,000

DESCRIPTION

The aging existing 11KV switchgear at Timaru substation was scheduled for replacement. The existing switchgear was replaced with RPS LMVP withdrawable 11KV switchgear. This switchgear consists of three busbar sections which were installed in a new building. The 11KV switchgear building is made up of three switchroom's, plus separate Transpower and Alpine Energy relay rooms. Other works completed at the same time were replacement of the RTU; 110/11 KV supply transformer T2, T3 & T4 protection upgrades; and the installation of NER's on the LV winding star connections of T2, T3 & T4.

SCOPE

Electrix scope of work was as follows:

- Install and commission three sections of new 11KV indoor switchgear, including new feeder protection.
- Install and commission three new 11KV bus zone protection schemes.
- Install and commission a new bus tie protection scheme to initially protect the tie cable between the existing switchboard and new busbar A, and later protect the bus A/C tie cable.
- Install and commission new 110/11 KV supply transformer NER's and protection schemes for T2, T3 & T4.
- Replacement of the RTU with an Ethernet capable D20VME RTU with LANA & B panels and station auxiliary panels to be located in each 11KV switchroom.

The cable trenches were extended and new incomer cables were installed for the three supply transformers. Three new 110KV ODJB's in the new 11KV relay room DC1 and 2 distribution panels. Also the 400V supply scheme was modified to supply the new 11KV switchroom. The RTU and SCADA system was modified to include new protection relays

Electrix worked with the local service provider, Alpine Energy, to manage the construction and outages sequencing. Alpine Energy concurrently installed new feeder tails, new local back protection schemes on each 11KV feeder, new RTU, check metering, protection and 125V DC distribution equipment.

VALUE TO CLIENT

Careful outage and contingency planning was required and achieved in order to ensure outages dovetailed with Alpine Energy outages with no loss of supply to Timaru. Outages scheduled and completed between local key customer summer peaks and before winter load increases.

