

Unit Transformer Fire Protection

Client: Meridian Energy
Location: Aviemore & Tekapo B Power Stations
Contract Value: NZ\$1.4M

Meridian Energy Ltd contracted Electrix to carry out this multidisciplinary project to contain, suppress and mitigate the risk of fire on these critical items of plant. The installation enables the continuation and fast restoration of generation capacity in the event of a unit transformer fire at the power station.

The work demanded a concerted effort by civil, mechanical and electrical teams to meet strict outage periods to minimise loss of generating capacity. Precise planning was required to enable as much preparatory work as possible to be completed before each transformer bank outage.

The design necessitated the relocation of transformers to provide adequate space for the installation of fire enclosures. This also entailed the relocation and/or extension of primary and secondary connections, pipe work and seismic restraints. The fire enclosures were concrete block walls and /or pre-cast panels to suit the location.

The mitigation measures included a two part oil removal system to reduce the potential fuel available. The first part involved modifications to the bund oil removal system to provide an oil spill And storage system quite separate from the existing stormwater drainage.

The second part required the installation of a manually operated drain valve from the transformer to a safely located storage tank. Both measures entail the installation of flame traps or quenching devices.

Limited building fire barriers are also installed to protect vulnerable building and other service components.

This complex project was completed on time and within budget and demonstrates the value of Electrix project management expertise.



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