

## Unit Protection Upgrade Projects – Waikato River Power Stations

**Project:** Unit Protection Upgrades

**Client:** Mighty River Power

**Location:** Various Power Stations in the Waikato River Hydro Power Scheme

**Total Contracts Valued at:** NZ\$2,000,000

Electrix successfully completed unit (generator & transformer) protection replacements associated with 21 units at various power stations in the Waikato River Hydro Power Scheme for Mighty River Power since 2003.

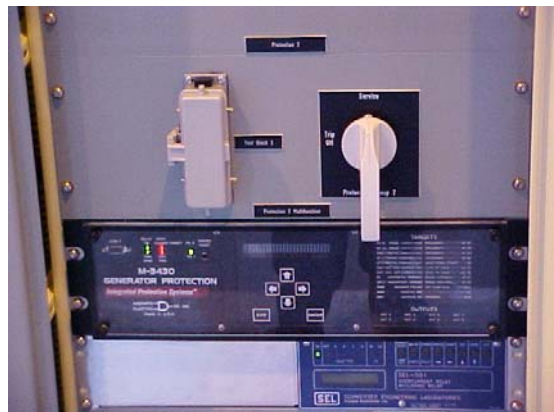
These projects involved the replacement of the existing Unit Protection with new duplicate Protection 1 and Protection 2, Split Phase Protection, Rotor Earth Fault Protection, Over Excitation Protection etc. based on several SEL, Beckwith and Areva relays.

Electrix installed a blown fibre optic network within MRP's hydro sites. This comprises of multi tube ducting which allows installation of additional fibre bundles as the need for more information increases. New fibre cables can easily be blown within the spare tubes as and when required.

The power stations completed are:

- Aratiatia x 2 units
- Ohakuri x 4 units
- Atiamuri x 4 units
- Whakamaru x 3 units
- Maraetai 1 x 4 units
- Waipapa x 3 units
- Karapiro AVR fibre network
- Arapuni x 1 unit

Electrix won all but one of the contracts for the unit protection upgrades and all projects were completed on time, within budget and to the clients satisfaction.



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