

Ohinewai Substation Transmission Line Terminations

Project: Ohinewai 220kV Tower Erection and Gantry Terminations
Client: Transpower Limited
Location: Waiterimu, North Waikato, New Zealand
Contract Value: NZ\$1.9M



Transpower is responsible for ensuring the secure and reliable transmission of electricity from generators to distribution companies and large direct supply customers, as part of this commitment a new switching station was built at the junction of the OTA-WKM C and HLY-DEV A 220kV existing transmission lines to enable the connection of all six circuits to a common bus.

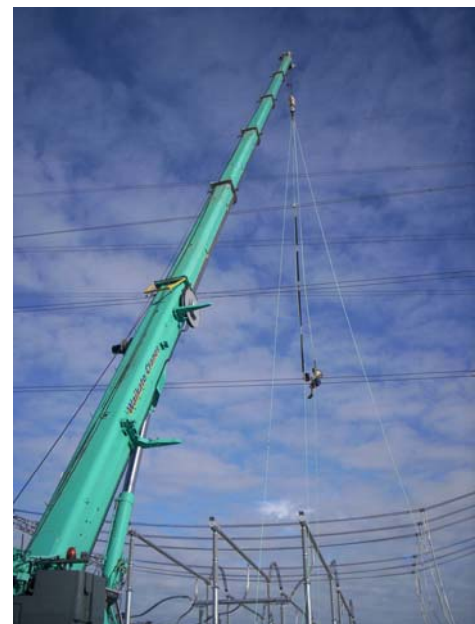
As a pre-qualified Transpower contractor Electrix was awarded the total project including the substation construction after extensive Request for Proposal submissions and negotiations with the client. The total contract value at the time of tender was in the order of NZ\$5m with an estimated component of nearly NZ\$1m to cater for ongoing design modifications.

As the time frames for commissioning were “very tight” - 6 months from award to completion Transpower decided to partially overlap the design and construction phases thereby shortening the project time frames. Electrix innovative solutions to some of the design problems encouraged Transpower to award the work to Electrix. The scope of work consisted of;

- installation of two tower foundations, and the erection of the two towers using large cranes.
- two 23m concrete poles were also erected to carry one double circuit around an existing tower to the gantry.
- the strengthening of an existing tower.
- the stringing of new and re-used conductor and earth-wires between the various structures and their new gantry terminations.

To achieve this a great deal of preplanning and logistical effort was required to ensure the changeover to the new configuration minimized grid outage times, all circuit outages were confined to weekends, as the circuits to be reconfigured into the substation provide power to the critical Auckland region.

Electrix pioneered a new procedure to hold the existing live conductors clear of the work site using a crane to allow erection of the gantries below, this process had not been deployed in NZ previously. Many other challenges also arose with the design and the some atrocious weather also impacted on the outages but the committed Electrix crews worked in all weathers to see the project to a most satisfactory outcome that will help ensure Auckland's continuity of supply for many years to come.



Electrix Limited
 2 George Bourke Dr,
 Mt. Wellington
 Auckland
 PO Box 1688, Auckland
 New Zealand
 Phone: +64-9-270 1700
 Fax: +64-9-270 1701