

OTA-WKM C Tactical Thermal Upgrade Conductor Works

Project: OTA-WKM C Tactical Thermal Upgrade Stages 1-7

Client: Transpower New Zealand Limited

Location: Waikato NZ

Contract Value: NZ\$1,000,000

The purpose of this project was to carry out conductor joint replacements as deemed necessary by recent joint testing and analysis works, to allow continuity of supply to Auckland until the 400kV is commissioned. This will allow more power to be transmitted through the conductors. The replacement joint sites are located in the Ohinewai to Whakamaru section of the Otahuhu to Whakamaru C transmission line. Total work completed consisted of:

- In-span Joint Replacements – 58x
- Patch-rod Works – 12x
- Dead-end Joint Replacements – 52x
- Jumper and Links works at T224 and T225

The transmission line is double circuit and carries duplex 'Goat' conductor with twin earth-wires. Both circuits are 220kV supported on double circuit steel lattice towers.

Works consisted of replacing both mid-span and dead-end compression joints, jumper palm refurbishment and bolt replacements, replacement of repair sleeves and installation/removal of jumper links as required. Comprehensive work programmes were prepared and followed to ensure completion of works within the circuit outage timeframes specified.

Electrix trialed a new project team structure and developed a reporting template that received commendation from the client. Electrix has been requested to continue use of this reporting structure for all future projects. New quality assurance checking processes were also developed to ensure works were completed to a high standard.

System constraints associated with the failure of the Otahuhu Power Station part way through the project meant a last minute delay of several weeks to stages 2, 3 and 4 and Electrix' flexibility and ability to adapt to change allowed immediate recommencement of the project once Otahuhu was returned to service with no further loss of time.

Landowner liaison remains a vital link in maintaining landowner relationships, and there was a strong focus on this process. Communication with subcontractors and the Client was employed to ensure a "No surprises" approach.

The project management team are happy to report a successfully delivered project, with an excellent client relationship maintained. The success of the reporting and management structures developed during the project raises the bar for future works and Electrix look forward to maintaining this high standard.



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