

Grillage Foundation Concrete Encasement

Project: *Grillage Foundation Concrete Encasement*

Client: *Transpower NZ Ltd*

Location: *Nationally, New Zealand*

Contract Value: *NZ\$5m*

In order to stimulate economic activity during the recent recession, the New Zealand government encouraged Transpower to accelerate the execution of some maintenance programmes that would otherwise have been undertaken some time in the future. One such programme is encasement in concrete of grillage foundations for lattice steel transmission towers. The philosophy was to encourage spending outside the main centres to provide additional employment opportunities for people who might otherwise have been without work as a result of the recession.

Electrix engaged additional staff and hired and managed small local contractors complete with excavators and other plant to undertake the work. In some parts of the country Electrix used it's own equipment supplemented by recent purchases to complete the works. Ready mix concrete suppliers in some areas of the country experienced a serious down turn in sales and this project provided additional opportunities to them through the building industry slump.

Electrix personnel designed and fabricated unique steel formwork that was supported off the main tower legs to form the concrete. The revolutionary developments in this device greatly contributed to productivity, quality and ease of placement of the concrete. Transpower pioneered non steel cage reinforced tower foundation design by using steel fibre reinforced concrete, which had a very low slump to enable single pours of each tower leg. This product also enabled greater productivity.

Work to date on this initiative has been undertaken in the Greater Waikato area, near Waiouru on the Desert Road and in Central Otago. The project required "Real Men" to work between Waiouru and Taihape and in Central Otago over the winter months with temperatures often in single figures.

Identical work has also been undertaken on the OTA-WKM C Tactical Thermal Upgrade (TTU) project, with thirty double circuit towers having the grillage foundations encased in concrete to enable the structures to withstand additional loads as a consequence of the TTU.

Transpower has been very complementary with regards all the works and particularly the development and design input from the Electrix teams.



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