

# Case Study



## Powerlink OPGW Replacement & Maintenance, QLD

### Specialised Training Centre

Prior to commencing works, all Thiess Services crew members undertook rigorous training at the specially designed electrical training centre located at the Thiess Services QLD/NT/WA Head Office in Brisbane.

This cutting edge training centre is fully equipped to provide staff and contractors with training in all facets of electrical distribution line contracting, including live line training.



### Location

Throughout Central & Northern Queensland

### Client

Powerlink

### Value

AUD\$ 1 Million

### Duration

May to December 2003

### Contract type

Schedule of Rates

### Referee

Gary Mulherin

Powerlink

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Thiess Services undertook the challenging replacement of over 1,100km of earth wires with Optical Ground Wires (OPGW) on one side of transmission lines.

The works required the most stringent attention to safety, as the side of the transmission line not being worked on remained live, with voltages ranging from 132 KV to 275 KV.

The OPGW were replaced by removing the wire in sections via a pulley. These sections were of varying lengths, ranging from 5km to 10km, known as "long pulls".

Every pulley needed to be earthed back to the tower to reduce induction (static electricity) and the new OPGW was pulled through already joined to the old wire via a stocking grip, a swivel or other attachment device.

The old and new wires needed to be attached in such a manner that when they were pulled through they did not spin, as that would damage the fibres within the OPGW.

Some pulls were required to be done at specific times due to consumer loadings on that line. Once the wire was pulled through, the teams were able to adjust the sag of the line. The amount of sag that a line requires is determined using temperature and a specific corresponding sag chart measurement.

Once the line sagging was complete, the pulleys were removed, the line was clamped into place and tensioned off at the pole, and power was reinstated.

Thiess Services worked closely with Powerlink throughout the contract to execute the Powerlink-designed works.