



CASE STUDY: WAIRAU 33kV CABLE JOINT REPLACEMENT

This Vector Electricity 33kV oil cable passes beneath a bus terminal forming part of Auckland's North Shore bus lane. Utilities contractor Siemens needed specialist help when a damaged portion of the cable linking the network to the Wairau Road zone sub-station experienced a loss of oil pressure, threatening the security of supply to the north shore.

PROJECT SCOPE

Northpower was contracted by Siemens to cut out and replace a leaking oil stop joint.

With the damaged part located beneath a roundabout at the Smales Farm bus terminal, the project included supervision of civil works contractors who carried out excavations overnight to minimise the impact on commuters.

The work required close and ongoing contact with the North Shore City Council over all road closures and technical issues.

CHALLENGES

This project presented the team with some technical challenges as no standard parts were available to replace the damaged units.

Because the stop joint was located under a roundabout and close to the bus lane the Northpower team was requested to begin work after 9pm to ensure road closures took place only overnight, with the area left clear and accessible by 6am the following morning.

FACTS AND FIGURES

- 400 litres of cable oil used
- 80 metres of single core 400mm² XLPE 33kV cable replaced
- 1 XLPE oil stop joint replaced



SOLUTIONS

With no standard materials available, Northpower engineers sourced and imported some parts and modified or custom-built others.

Over a four-week period staff worked closely with the North Shore City Council's busway supervisor, gaining an understanding of their needs, obtaining clearance for technical issues and managing the impact on the community.

Most disruptive work was carried out overnight, when heavy digging equipment was brought in. Each morning the site was shored up and cleared to allow the road to reopen prior to the traffic rush hour period.

RESULTS

The damaged joint was isolated, replaced and commissioned successfully and the cable returned to service with minimal disruption to bus services.