

GRANVILLE SUBSTATION COMMISSIONING



GRANVILLE JUNCTION
SUBSTATION
1500V DC SWITCH AREA

Six

6 people working full time on the project for 18 months

Transport for NSW constructed a new substation at Granville. The new substation provided traction power (needed to run trains) to the T1 North Shore, Northern and Western Line and on the T2 Airport, Inner West and South Line. The project was delivered by RCR Infrastructure and Abergeldie Joint Venture who engaged EnerMech to manage the substation commissioning.

Client: Abergeldie & RCR Tomlinson Joint Venture

Year: 2017 – 2019

Service: M&EI – Commissioning and Testing

Scope of Work

Development and management of QA completions process for specialised traction equipment

Provision of highly competent multi-skilled personnel to perform testing and commissioning services

Commissioning

- 33kV Mitsubishi switchboard
- 1500V Switchboard
- 33/11kV Power transformer
- 11/0.4kV Distribution transformer
- 66/0.6kV Traction Transformer
- Rectifier
- UPS Commissioning – including Battery discharge testing
- Low voltage distribution board
- Automatic transfer switch
- Rail earth contractor / voltage limiting device
- Isolating rail connecting switches

Testing

- Circuit breaker timing
- Micom protection relay
- Microelettrica Scientifica protection relay
- Current transformer
- Voltage transformer
- High voltage cable
- Low voltage cable
- SCADA Testing with Sydney Trains

Test Equipment Used

- Omicron CCPC100
- Omicron CMC356
- Omicron CMLIB A
- Omicron CT analyser
- Omicron TD1
- Omicron Cibano 500
- 10kV IR tester
- 200A Ductor tester
- 60kV VLF tester
- AC Hi-pot tester
- Battery discharge tester (Torkel)
- Process calibrators

Project Delivery

Developed as part of the Power Supply Upgrade (PSU) program the Granville Substation was fully integrated with new system interfaces to existing electrical, telecommunications and civil infrastructure and installations.

The construction site was located within the busy three-way junction. Technical complexities arose from working within the rail corridor and having live, rail traffic passing through the construction area.

The new 2 x 5MW rectifier 66kV substation will support the 1,500V traction power supply in the area.

EnerMech developed and implemented comprehensive commissioning package ensuring the successful completion of work to meet the expected power requirements of the future rail network.

Key Benefits

Comprehensive Commissioning Package development and implementation

Seamless Operations Handover and Technical Support

Highly skilled and competent workforce and modern test equipment technology

