

# SYDNEY LIGHT RAIL – TRACTION SUBSTATION TESTING AND COMMISSIONING



The CBD and South East Light Rail (Sydney Light Rail) is a new light rail and bus network for Sydney, Australia. EnerMech was engaged by Acciona to carry out the testing, commissioning and delivery of the 750V traction substations (Alison Road, Randwick Depot, Kensington and Dacey Avenue).

**Client:** Alstom  
**Year:** Aug 2017 – May 2018  
**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

- 11kV GE Switchboard C
- 750V HESOP (Harmonic and Energy Savings Optimiser) system
- 750V Sécheron switchboard
- 11/0.4kV Distribution transformer
- UPS Commissioning – including Battery discharge testing
- Low voltage distribution board
- Emergency tripping system
- RONIS key interlocking system
- Harmonic filter
- Traction distribution, isolation, bypass switch

### Testing

- GE Multilin protection relay
- Current transformer
- Voltage transformer
- 11kV/0.6kV Traction transformer
- Sécheron protection relay
- PCS testing from field equipment to Substation HMI
- High voltage cable
- Low voltage cable
- Stray current cubicle

## Test Equipment Used

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

## Project Delivery

EnerMech developed and implemented comprehensive commissioning package that ensured the successful completion of the work and delivered traction supply to the network enabling the client to commission the first light rail vehicle on schedule.

Our highly skilled and competent workforce developed safe work methods to perform the testing, commissioning and delivery of the four 750V traction substations, as well as managing the QA completions process.

## Key Benefits

Over 25,000 manhours worked with no safety incidents

Comprehensive comprehensive commissioning package development and implementation

Seamless Operations Handover and Technical Support

Highly skilled and competent workforce and modern test equipment technology

