

BRADFIELD TUNNEL



PROJECT DETAILS

PROJECT LOCATION:
Bradfield Tunnel, Sydney,
NSW

COMMENCEMENT DATE:
May 2015

COMPLETION DATE:
In Progress

TYPE OF CONTRACT:
LV Electrical,
Communications and SCADA

CONTRACT VALUE:
>\$1.3 Million +

PROJECT MANAGER:
Bassam Hamed

RAIL MANAGER:
Phil Tilden

OVERVIEW TRADE PACKAGE

Bradfield Tunnel is located at the intersection of Bradfield Highway and Cahill Expressway, Circular Quay below the Shangri-La Hotel.

The Bradfield Tunnel Main Switchroom (known as "Argyle Switchroom") is located at the western end of the pedestrian subway running under Bradfield Highway that connects to the Sydney Harbour Bridge. The subway has a western exit onto Upper Fort Street and an eastern exit onto Cumberland Street.

The project involves the replacement of the existing main switchboard with a new main switchboard.

One of the major challenges was the footprint and accessibility to the area that could not be altered due to the surrounding historical significance of its location

The new main switchboard will be designed to incorporate the provision of a future dual supply arrangement complete with automatic changeover.

COMMERCIAL FACTORS

- All works were staged to minimise disruption of power to the Bradfield Tunnel. Staging sequence and programme is to be presented to LBAJV (Leighton Boral Amey Joint Venture) for approval prior to any works commencing on site and numerous meeting and consultation with the Harbour Bridge Authority
- Star to liaise with Ausgrid for the works.
- Lifting, hoisting and scaffolding as required for the works.
- Provision of all necessary documentation including workshop drawings.
- Maintenance Manuals and "As Built" drawings.
- Commissioning and testing.
- Personnel training and instruction.

PROJECT CHALLENGES

- Size restrictions of existing switchrooms making it difficult to facilitate MSB upgrade
- Interaction with numerous external statutory controllers, contractors and subcontractors
- Working alongside live motorway
- Interface with existing 50 year old plus equipment
- Logistical challenges with transporting equipment into plant rooms, and maintaining General Public Access
- Multiple shutdowns whilst maintaining lighting, ventilation and general services for the tunnel and emergency services being Police, fire and Ambulance.

PROJECT SPECIFICS

- Demolition works as required to facilitate the electrical upgrade. Removal and disposal of existing distribution boards and the like is to be included as part of these works.
- Existing 200A power supply that currently feeds the existing main switchboard, is to supply the new Main Switchboard. New consumer mains are to be run from the load side of the existing link box to the new main switchboard
- Supply and Installation of PMS system for monitoring and status of power usage, and reporting to RMS via remote message
- Supply and Installation of VSD & line filters to all existing supply and exhaust motors.
- Commission new electrical infrastructure whilst maintaining tunnel lighting and fans to Bradfield Tunnel

