DEGNAN

CABOOLTURE FEEDER STATION UPGRADE

Degnan partnered with Queensland Rail to deliver the Caboolture Feeder Station upgrade, replacing end-of-life infrastructure to improve network reliability, maintainability and system resilience.









SECTOR
Energy

LOCATION
Brisbane, QLD
Yuggera & Turrbal Country

CLIENT
Queensland Rail

PROJECT COMPLETION
May 2025

PROJECT VALUE
$8M approx.

DELIVERY MODEL
Construct

The project upgraded the operational 50 kV traction feeder substation with a new prefabricated switchroom, gas-insulated switchgear, power transformers, earth grid, lightning protection and associated civil, structural and cable reticulation works.

As a brownfield upgrade, careful planning around the operational earth grid and close coordination between Queensland Rail, Schneider and Energex during critical shutdown periods.

KEY OUTCOMES

- New 50 kV traction feeder infrastructure integrated into the existing operational substation.
- End-of-life equipment upgraded to support improved reliability, maintenance and system resilience.
- New switchroom, power transformers and associated infrastructure delivered as part of the brownfield upgrade.
- Complex stakeholder interfaces coordinated within critical shutdown windows to support safe and efficient delivery.

CHALLENGES OVERCOME

- **Working around an operational earth grid.** Extensive civil works and trenching were required around the existing earth grid. Temporary earth-grid configurations were modelled and designed before inground works commenced to manage step and touch potentials throughout construction.
- **Safely modifying existing infrastructure.** Construction processes were developed to allow sections of the operational earth grid to be safely cut and relocated as works progressed.
- **Managing critical shutdown interfaces.** Shutdown periods required close coordination between all stakeholders.