

Case Study

Custom DC Power Solutions for Energy Queensland

Delivering Reliable DC Power Solutions for Critical Infrastructure

Energy Queensland needed a reliable and compliant DC power solution for both new and existing substations. The objective was to implement a system that integrates seamlessly with current infrastructure, allows for future scalability, minimises failure points, reduces maintenance requirements, and meets all Australian standards. R&D Technology was engaged to deliver a full design and engineering package across multiple voltage platforms: 24V, 32V, 48V, 110V and 125V DC.

Navigating Compliance and Complexity

The objective was to deliver a robust DC battery charger system that could be deployed seamlessly across varied substation environments, while reducing maintenance and enhancing reliability. A key challenge was maintaining uniformity in cabinet design across multiple voltage platforms. Integration with existing switch room specifications introduced further constraints, and the systems needed to be delivered in staggered phases, without compromising on quality or compliance.

Customised DC System Design and Support

To address these challenges, our team delivered a full design and engineering package including:

- Convection cooled rectifier modules to minimise maintenance requirements
- Standardised documentation for installation and operation
- Custom-designed enclosures and components SNMP/Modbus communications for monitoring Local spare parts availability and training support



Results that Deliver Value

Our solution was built on a foundation of collaboration and technical precision. We partnered with Rectifier Technologies to enable fast manufacturing turnaround times and ensure ongoing support for the DC systems. By engaging Energy Queensland throughout the design process, we delivered a solution that aligned with their operational needs.

Energy Queensland now benefits from a consistent and compliant DC power solution across its network.

- **Streamlined Infrastructure:** Standardised DC systems across substations
- **Reduced Lead Times:** Faster delivery through local stock holding
- **Improved Uptime:** Reliable systems with locally stocked spares
- **Scalable Design:** Simplified maintenance and future upgrades
- **Uninterrupted power supply:** Redundancy ensured system reliability maintaining continuous operation.

A Proven Approach to DC Power Solutions

This project reflects Colterlec and our commitment to delivering custom DC power solutions that meet stringent industry standards. Through collaboration, technical expertise and local support, Colterlec enabled Energy Queensland to enhance its power infrastructure with confidence.

