EQUINOX AUTOMATION

CASE STUDY

Fast-Track UPS & Battery System Replacement

Electrical Engineering – Delivering Reliable Backup Power for Critical Systems

BACKGROUND AND CHALLENGES:

A major gas production facility required the replacement of two aging parallel 60kVA UPS units and battery banks to maintain reliable backup power for critical control and safety systems. The client engaged Equinox Automation because they knew we could provide a fast turnaround on the engineering, design, and commissioning package, essential to aligning with shutdown windows and reducing downtime risk in the event of site power failure.

Key challenges included:

- Working in a brownfield environment with live legacy systems
- Integrating new UPS systems with the existing bypass panel and DCS
- Delivering within a short timeline

SOLUTION:

We focused on speed and efficiency without compromising quality. Our team:

- Selected UPS and battery bank systems, verifying performance against required backup times
- Fast-tracked equipment selection, assurance reviews, and datasheet issue to enable timely purchase of the UPS and battery banks, which were critical path items for the project schedule
- Delivered a comprehensive, compliant design pack with approved drawings to AS/NZS3000 and client standards, including electrical, instrumentation, and control system drawings, cable schedules, material take-off lists, and an electrical design certificate
- Produced a clear installation scope and commissioning procedure, enabling the client's team to install confidently during the shutdown while reducing commissioning and hot cut-over risks
- Identified vendor-supplied non-compliant DC equipment and engineered a cost-effective solution
- Developed maintenance and hot changeover procedures incorporating specific UPS functionality
- Delivered a final, fully as-built drawing pack in CAD format

Figures 1 & 2: Legacy UPS and battery bank within the replacement scope.

Figures 3: Bypass panel that required detailed inspection during the site survey.

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RESULTS:

The project achieved:

- Fast delivery of engineering and design to meet the client's critical shutdown window
- Seamless installation and integration of the new UPS units and alarm signals by the client's construction team, with no disruption to operations
- A reliable, future-proofed, and electrically safe UPS system
- Delivery of high-quality engineering data and drawings for the client's records

The client highlighted the clarity and quality of documentation as key to the smooth installation, compliance, and ongoing reliability of their critical UPS system.

Figure 4: Upgraded 60 kVA UPS and Battery Bank

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