mjr Power & Automation

CASE STUDY: Power & Automation

VFD Switchboard Replacement for Downhole Pumps on Eni Douglas Oil Platform

ABB awarded MJR Power & Automation the contract to deliver a critical electrical infrastructure upgrade on the ENI Douglas Oil Platform, located in the Irish Sea 15 miles off the coast of North Wales.

This project required a turnkey electrical engineering solution, involving the complete removal and replacement of VFD Switchboard B for the platform, as well as the installation of four external sine filters with associated air and seawater cooling systems. This work was critical to the downhole pump switchboard upgrade, designed to improve electrical reliability and long-term operational resilience.

The project was delivered during a planned shutdown, with strict time and safety constraints. MJR Power & Automation coordinated closely with multiple contractors to ensure seamless integration of works.

Complex logistics, offshore mobilisation, and the confined switchroom environment added to the challenges, requiring precision planning and execution.

MJR Power & Automation

85 & 88 Willows Court, Teesside Industrial Estate, Thornaby, Stockton-on-Tees, TS17 9PP, United Kingdom

Head Office +44 (0) 1642 762 151

www.mjrpower.com

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Scope of Work

Switchboard Replacement

Upgraded the main switchboard, replacing all power and controls. MJR Power & Automation's responsibilities for the switchboard replacement included:

- **Decommissioning: Isolation and removal of legacy power, control, and ESD cables; dismantling and extraction of the existing Switchboard B panels.**
- **Installation: Installation of new switchboard plinths; positioning and assembly of the new Switchboard B; busbar connections; cable installation between transformers, sine filters, and the switchboards.**
- **Integration: Reinstatement of ESD, CT, and inter-trip circuits, control panel modifications, and installation of cubicle lighting and auxiliary systems.**
- **Testing & Commissioning Support: Megger and continuity testing of power and control cables, ductor testing of busbars, termination of power cable ends, and full reinstatement of fireproofing and HVAC systems.**

For further details please contact:
sales@mjrpower.com or call +44 (0)1642 762 151
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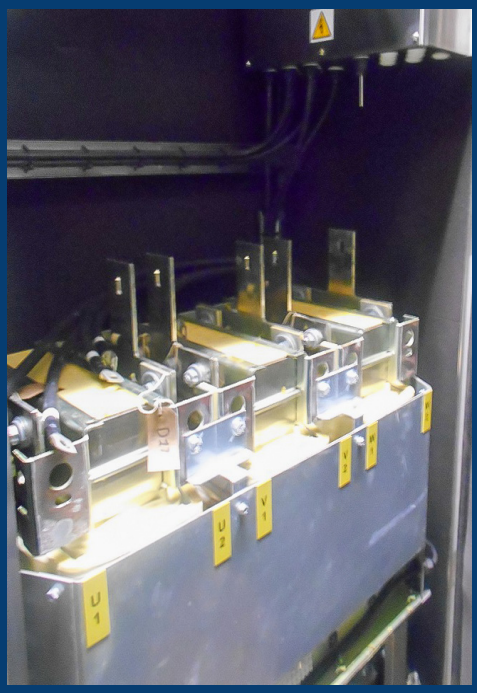
Sine Filter Installation

In parallel with the switchboard works, MJR Power & Automation were responsible for the installation of four external sine filter cabinets on the platform's cellar deck.

The work included:

- **Positioning & Fixing: Correct allocation of each sine filter to their designated deck locations using pre-drilled stainless steel skids and drilling templates. The works required removal of stair treads and scaffold barriers to move cabinets into position.**
- **Mechanical Assembly: Fixing cabinets to the deck with Hollo-Bolts, neoprene strips, and insulated shoulder washers to prevent galvanic corrosion. Installation of cooling ductwork and seawater cooler units and alignment with future pipework connections.**



MJR Power & Automation successfully delivered the critical electrical and mechanical upgrade package, completing both the switchboard replacement for downhole pump operations and sine filter installation within the planned shutdown window.

The delivery of this project was done safely, compliant with offshore HSE standards, and completed with close collaboration from Eni, ABB and other specialist third-party contractors.

The project provided improved reliability, safety, and maintainability of the platform's electrical distribution network, ensuring long-term operational integrity for Eni's Douglas facility.

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