Red Sky





Brownfield Control System Modification – West Africa LNG Facility







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Client: LNG Processing Facility operated by a Joint Venture (JV) **Location**: West Africa **Project Type:** Brownfield / Live Plant Control System Modification **Partner:** Red Sky Energy (RSE)

Delivery Overview

Red Sky Energy (RSE) was selected to deliver a critical brownfield control system modification at a live LNG facility in West Africa, operated by a multi-party joint venture. The scope involved modifying 176 hardwired I/O points across four essential systems, introducing new Safety Instrumented Functions (SIFs) and advanced control loops designed to enable real-time optimization of plant operations.

For further information please go to: www.redskyenergy.co.uk





Scope of Work

- ✤ Key Systems Modified
- Process Control System (PCS)
- ✤ Safety Instrumented System (SIS)
- High Integrity Pressure Protection System (HIPPS)
- ✤ Fire & Gas System (FGS)

RSE's integrated approach covered end-to-end execution—from design through to commissioning—ensuring operational continuity throughout the project.

Execution Strategy: Systems Completions Framework

With no existing Completions Management System (CMS) in place, RSE developed and deployed a bespoke completions tracking database. This digital framework enabled structured execution, including:

- Definition of pre-commissioning functional test requirements
- Development of commissioning test procedures
- ✤ Assurance of safe, compliant integration of all system modifications





Challenges & Solutions

Challenge	Solution
No Main Automation Contractor (MAC)	RSE took on the lead coordination role, interfacing with multiple control system vendors to manage software and hardware integration.
Live Plant Environment	A meticulously phased execution strategy was adopted to ensure work proceeded without interrupting production or creating trip risks.
Trip Risk Management	A completions-driven approach was used to deliver "right-first- time" execution, eliminating unplanned system downloads and minimizing risk to ongoing operations.

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RSE's Role

- Engineering design and technical leadership of control system modifications
- Multi-vendor interface management
- Development and execution of commissioning and validation procedures
- Management of pre-commissioning and loop testing
- Consultancy support throughout handover and safe start-up
- ♦ Outcome & Impact

This project exemplifies RSE's capability to deliver high-risk modifications in live plant conditions. Through a structured systems completions methodology, RSE ensured:

- ✤ Zero unplanned downtime
- Safe integration of new control functionalities
- Improved operational performance through real-time optimization capabilities

The project was completed successfully, enhancing the plant's safety, control precision, and operational efficiency—without disrupting ongoing LNG production.





Thank you

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