GLO Marine

RETROFITS STRUCTURAL ENGINEERING

ROV Launch and Recovery System (LARS) Retrofit

CLIENT CONFIDENTIAL

YEAR 2025

PLATFORM TYPE

OSV

CLASS

SOW

Engineering, structural analysis, and technical documentation

CLIENT CONTEXT

Upgrading critical subsea handling capabilities

GLO Marine delivered a comprehensive engineering package for the retrofit of a Launch and Recovery System (LARS) supporting remotely operated vehicle (ROV) operations onboard an offshore vessel.

The project focused on modernizing the existing system to meet current operational requirements, while ensuring compatibility with the vessel's structural configuration. The upgrade required careful integration of new equipment into an already constrained deck space, maintaining alignment with class and safety standards.

THE CHALLENGE

Integrating new equipment within existing structural constraints

Retrofitting a LARS system onto an operational vessel presents a complex engineering challenge. The primary objective was to introduce an updated system without compromising the integrity of the existing deck structure and supporting foundations.

Key challenges included:

- Assessing the load impact of the new LARS configuration on the existing structure
- Ensuring sufficient strength and stiffness of the winch foundation
- Integrating new structural elements within spatial and operational constraints
- Maintaining compliance with offshore operational and safety requirements

This required a detailed understanding of load paths, dynamic offshore conditions, and the interaction between new and existing structures.

IMPLEMENTATION STEPS

Engineering validation and structural integration

GLO Marine executed the project through a focused engineering approach, combining advanced analysis with practical design deliverables:

Structural Analysis

- Conducted Finite Element Method (FEM) calculations for the updated LARS system
- Evaluated load distribution and structural response under operational conditions
- Verified the adequacy of the existing deck and new winch foundation

Design Development

- Produced basic engineering drawings for all newly integrated structures
- Defined structural modifications required to support the new system
- Ensured compatibility with existing vessel arrangements

Technical Documentation

- Delivered a comprehensive calculation report

- Provided supporting documentation for verification and compliance purposes
- Enabled alignment with class and operational requirements

By combining simulation-driven validation with practical design outputs, the retrofit solution was engineered to integrate seamlessly into the vessel.

A validated and compliant retrofit solution

Final results

The project resulted in a fully engineered retrofit concept for the vessel's ROV launch and recovery capabilities.

Key outcomes included:

- Verified structural integrity of the upgraded LARS and winch foundation
- Successful integration of new equipment within existing vessel constraints
- Delivery of a complete engineering package ready for implementation and approval
- Enhanced confidence in operational safety and performance under offshore conditions

Through the application of FEM-based validation and targeted structural design, GLO MARINE ensured that the retrofit meets modern operational demands while preserving the integrity of the original vessel structure.

GLO Marine

Your vessel upgrade partner

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