ZFDP Phase 1 - Topsides Scope

Owner	Gemsa Petroleum Company (GEMPETCO)
Client	PPIS
Location	Gulf of Suez, Egypt
Year / Status	2025 / In Progress
Project Type	Detailed Engineering and Procurement Support
Keywords	Offshore Modifications, Power Integration, Reliability, HAZOP, HAZID

Scope of Work

The Zaafarana Field Development Project – Phase 1 involves modifying the WARDA platform to integrate gas-fired power generators supplying up to 4 MW. Topsides scope covers decommissioning existing diesel units, optimizing the plot layout, updating the HAC and F&G systems, and designing a prefabricated pressurized E&I module with UPS, lighting, switchgear, and PLC systems. UNEPP was commissioned by PPIS to perform detailed engineering, conduct HAZID/HAZOP studies, and develop 3D models. Procurement services include bid preparation, vendor management, inspections, and documentation.

Technical Challenges

- Integrating 4 MW gas generators within limited deck space while maintaining weight balance and accessibility.
- Managing hazardous area classification and F&G system upgrades to meet offshore safety standards.
- Ensuring redundancy, reliability, and emissions compliance for continuous power supply.
- Coordinating demolition, installation, and tie-ins on an operating platform with minimal downtime.

Execution Strategy

Project execution strategy followed a phased EPCI approach to ensure safe, efficient offshore integration with minimal downtime. It included detailed engineering and prefabrication during pre-TAR, critical tie-ins and commissioning within a 10-day TAR window, and post-TAR reinstatement and testing. Emphasis was placed on modular fabrication, strict HSE and QA/QC compliance, and continuous coordination to optimize schedule and safety.

Strategic Outcome

The phased EPCI plan delivers new gas-fired power at WARDA via a subsea tie-in and prefabricated E&I module, with generators configured for 100% availability. The project targets 95–96% operability and full commercial operation within 12 months, with MWS certification, enhanced HSE compliance, corrosion protection, and lower emissions - securing reliable platform power and production continuity.

Photos / Diagrams