

Reliable back-up power is vital on-board platforms: restarting main power plant turbines after total blackout isn't possible without power from emergency generators.

The Gyda offshore oil field is located in approximately 66 m (217 ft) of water. The main reservoir stands at 4,000 m (13,000 ft) in the Upper Jurassic Ula Formation.

With reserves of 39.6 million m³ of confirmed oil and 6.6 billion cubic meter of natural gas, Gyda currently produces an average of 2,500 bbl/d (400 m³/d). The oil is transported by pipeline to Teesside via Ekofisk. The gas is also piped to the Ekofisk complex and from there on to Emden.

Application Challenge

Because the oil field's existing control system was based on relay logic and no longer considered up to date, Danish switchboard builder Elektromarine A/S approached DEIF in January 2013 for an offer and a solution for a refit of Gyda's emergency generator control system.

Reliable back-up power is vital on-board rigs: power from emergency generators is required to restart the main power plant turbines after total blackout. It is a redundancy requirement for the genset and control cabinets to be placed in two separate compartments, while being able to work both as a single system and as two independent systems.

Gyda's emergency power plant consists of two 1200 kW MTU gensets.

The gensets are required to loadshare when running in island operation, and to run in a fixed power configuration when paralleling with the four main turbine generators.

Talisman Energy Norge

Operated by Talisman Energy Norge AS, Gyda was discovered in 1980 and began production in 1990.

TALISMAN
ENERGY

The oil field has one conventional steel facility with production, drilling and living quarters.

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Data

- 2 × 1,200 kW MTU gensets
- Engine and generator control, alarm and supervision handling
- SCADA interface and control of aux. equipment (HPU, firedamper, ventilation, etc.)
- Load sharing when running in island operation
- Fixed power configuration when paralleling with four main turbine generators
- Fully redundant system solution

Product



Power Management System, DM-4 Marine

DEIF Solution

With individual control cabinets, DEIF worked to keep all the existing I/Os to minimise work on connected systems further down the line.

DEIF's Delomatic 4 Marine solution is able to handle the generator control, extensive engine and generator alarm and supervision, interface to SCADA, while controlling auxiliary equipment including HPU, firedamper and ventilation. The FAT of the control cabinets were carried out with participation of DEIF at the switchboard builder facility in Skagen, Denmark. Software FAT was performed at DEIF's test facility with the participation of the Gyda operator, Talisman Energy, and three other contracting partners; Origo Solutions, Otera and Elektromarine A/S.

Installation and commissioning took place on-site in the autumn of 2013, assisted by DEIF engineers. A critical procedure, the process had to be performed one genset at a time to maintain the alternate genset on standby for blackout start throughout the process.

Case Diagram

