

**Geisum Wellhead Platform Development Project
WP-C and WP-D
Zeit Bay – Egypt**



CLIENT

Geisum Oil Company

SUMMARY

WP-C Platform

Geisum Oil Company aimed to enhance its production by using jet pumping system. This required modifying the existing receiving and separation facility on the platform. This required as well the installation of a new jet pumping system with higher capacity. The new system consists of:

- New power fluid centrifugal pumps
- Two power manifolds
- New pipeline connecting between downstream Setty transfer pump and WP-C.



WP-D PLATFORM

Geisum Oil Company aimed to enhance its production by using jet pumping system. This required modifying the existing receiving and separation facility on the platform. This required as well the installation of a new jet pumping system with higher capacity. The new system consists of:

- Reciprocating pumps with its vessel existing.
- Utilize existing pumping system for lifting purpose as needed
- Possibility to direct the production of any well to sea line (open system)
- Existing Power Manifold
- Closed header for jet pumping system.

SCOPE

OnSpec scope of work covered the process and piping activities for the above mentioned items and was limited to

- Process calculation/verification
- Verification of the compliance of the existing vessel accordingly to new requirements
- Design of modifications to the existing vessel or design of a new one depending on the results of the above verification
- Basic design of the new system including interconnecting with process/utilities
- Detailed design of the new system including interconnecting with process/utilities

DESCRIPTION

OnSpec used the latest version of the process simulation (Pro/II and HYSYS) to simulate the existing and the new process.

The full scale simulation models for both WP-C and WP-D for all different operating scenarios included the following:

- Pumping System
- Pressure Vessel.
- Power Manifold.
- Production Manifold
- Interconnecting piping system.

The development of the design included the following activities:

- Development & validate design basis.
- Development of Process Flow Diagram (PFD)
- Heat and material balance tables.
- Development & validate design basis P&IDs including the following;
 - o Control philosophy.
 - o Line sizing, Hydraulic calculations, and manual valve sizing
 - o Equipment sizing
 - o Process data sheet
- Development of equipment specifications
- Development of equipment data sheet & package application sheet.
- Review utilities requirement
- Vendor print review