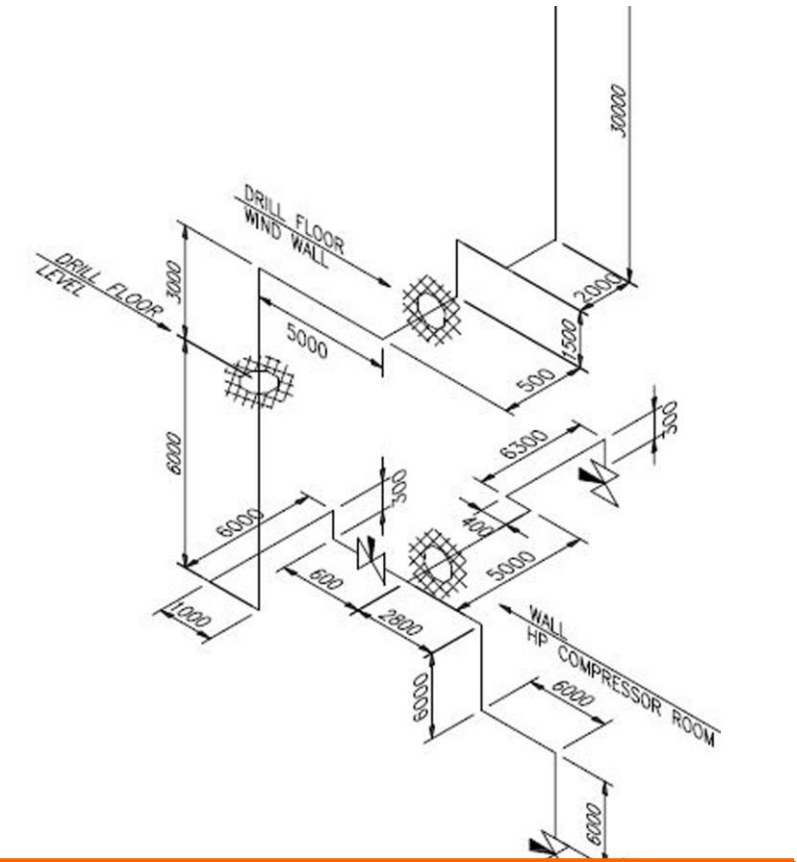

Hydraulic Lines; Supply and Installation: Korea

The Deepsea Aberdeen Semisub required pre-commissioning modifications at the DSME shipyard in Korea prior to beginning a contract offshore Scotland for BP. Weatherford, who supplied the main and auxiliary well power tongs, engaged K2 Specialist Services to provide the engineering, materials and installation of the rig floor equipment, LER control cabinet and hydraulic power unit.

Project Scope

To conduct a preliminary survey to determine a suitable location for the HPU, overhead trolley beam and plan the routing and materials needed for the hydraulic piping and cable trays and then have engineering design the trolley beam, the HPU container base frame, the correct pipe dimensions for the working pressure and flow of the system and appropriate isometric pipe drawings and material list based on the survey data.

K2 teams then handled the supply of hydraulic piping with Walform type tube fittings, cable trays and power and signal cables, trolley beam with spreader bar, HPU container base frame and tong interface brackets. Our personnel also handled the installation and, where necessary fabrication of all structural, hydraulic and electrical components. K2 technicians also conducted pressure testing of the installed piping as well as flushing to cleanliness level: 17/15/12 ISO 4406; (NAS 1638: Class 6).

System Particulars:

- Open Loop Hydraulic System
- Working Pressure: 210 Bar
- Flow: 75L/min
- Pressure line: OD 25x2.5 mm
- Return Line: OD 35x3 mm
- Drain line: OD 22x2 mm

Challenges

- Complicated brief that incorporated structural, hydraulic and electrical design components
- Logistically complicated by the number of project stakeholders, including the operator, contractor, shipyard and other service companies
- Narrow window for installation as teams co-ordinated with other companies doing modification work on the vessel

K2 Approach

- Close cross-departmental collaboration between K2 electrical and K2 engineering at preparation stage
- Sourced a local fabrication workshop in Korea to save on transport time from Singapore
- Worked to codes and standards mandated by the operator:
  - DNV-OS-D101, Standard Marine and Machinery systems and equipment
  - DNV-2.22 Standard for certification of Lifting Appliances.

K2 Comments

“This was a truly integrated engineering brief that incorporated hydraulic, electrical and structural work and K2 saw it through to the end with supply, fabrication and installation. To put it simply, it’s the full package”

Client Feedback

“Thank you to all involved parties, for the great work and the support that you gave. I know it was a little bit rough sometimes and frustrating, but in the end, it is the result that counts.”

Lifecycle Services for the Oil & Gas Industry

Asset

Deepsea Aberdeen, Semisub

Owner

Odfjell

Location

DSME Shipyard, Korea

K2’s team

Project Engineers

Discipline Engineering (Designs)

Piping / Electrical Technicians

Rope Access Qualified Riggers

Rope Access Qualified Welders