

Conceptual Design of Turret Mooring for D1 FPSO (Bumi Armada Berhad)

The work involved the development and preliminary detail design and arrangement of the internal turret mooring system to be used in the D1 FPSO. The design work included the provision of the mooring arrangement, mooring line and riser handling systems, swivel arrangement, turret integration in the vessel and basic specifications.

Review of Patent Information (Sigma Offshore)

The work involved a general review and proposed modifications to data for a patent application.

Review of Hydraulic Components (PH Hydraulics & Engineering)

The work involved the evaluation of hydraulic components and their suitability for application in a new concept.

FEED Study for FLNG (TMT Co Ltd)

The work involved the development of the process system for handling three different types of feed gas specification, the turret mooring system, cargo handling system, offloading system, power generation system and utility systems for the conversion of a very large bulk carrier into an FLNG unit. Detailed system drawings and specifications were prepared and basic budget estimates developed.

Papa Terra Project- Detailed Engineering for... (Saacke Marine)

Work involved the preparation of detailed construction drawings for the fuel oil preheater unit to be used with the boiler systems on the FPSO, including structural, piping and E&I sections.

RTM Column Dis-connectable Mooring for the 'Balnaves FPSO' (Bumi Armada Berhad)

Work involved the performance of detailed analysis of the column and mooring system in connected and dis-connected modes and engineering of the RTM column including the production of detailed construction drawings and preliminary installation procedures and verification. The original design previously used for the vessel had to be modified to accept an increased payload, multiple riser 'I' tubes and removable ballast weights.

Senoro Gas Development (Worley Parsons Indonesia)

Work involved a review of the process simulations and design assumptions used for the planned expansion of the Senoro Gas Plant.

Inspection of ex 'Cossack Pioneer' FPSO Turret Mooring (Petrofac)

Work involved site inspections of the existing system and provision of concepts for alternative mooring arrangements.

50mT Pipeline Davit (PH Hydraulics & Engineering)

Work involved the design, engineering and production of detailed drawings of the structural components of the pipeline davits.

400t Reel Drive Unit (PH Hydraulics & Engineering)

Work involved the FEM analysis of the proposed structure and system of the reel drive unit.

600kips CTU Frame (PH Hydraulics & Engineering)

Work involved the Analysis of the CTU frame.

Mooring Fatigue Analysis for FPSO Cidade de Itajai (Teekay Petrojarl)

Work involved the complete fatigue analysis of the spread mooring system in order to obtain classification society approval.

Large Turret Development (Samsung Heavy Industries)

The work undertaken was part of a research and development program to develop a functional design for a very large internal turret mooring system to be used on FPSO projects. The scope included the mooring system, shaft design, caisson design, gantry design, piping systems, E&I systems, fluid transfer system, bearing system and material handling systems.

Document Development for ISO Implementation (NYK Offshore Group)

The work involved the development of an ISO project based system for our client to allow for implementation and obtaining of ISO certification.

Review of Turret and Mooring System Documents (Tullow Oil PLC)

The work involved the review of project documentation relating to the turret mooring system to ensure compliance with project and classification society specifications and requirements.

FEED level design for 'Front Puffin' Spread Mooring (Rubicon Offshore Int'l)

Work involved the analysis and development of a spread mooring system including mooring arrangements, field layouts, deck equipment arrangements, specifications and cost estimates.

Review of the Design of a Reel Drive Unit (PH Hydraulics & Engineering)

Basic review and evaluation of a reel drive unit.

Detailed Engineering of Riser Handling System (PH Hydraulics & Engineering)

Work involved the analysis, detailed engineering and production of construction drawings for two types of large capacity riser handling systems to be used offshore Brazil.

Engineering for 'FPSO Opportunity' (Petrofac)

Work involved the development of utility systems for the proposed upgrade and modification of the FPSO, including the power generation, steam, cooling and cargo systems and the riser porch layouts.

External Turret Mooring System for FPSO (Rubicon Offshore Int'l)

Work involved the complete basic engineering of an external turret mooring system to be used on an FPSO in harsh environment. All elements were covered including the structural, mechanical, piping, E&I, fluid transfer and material handling systems.

Cantilever Turret Mooring System for FSO (SHI)

Work involved the complete detail engineering of a cantilever turret mooring system for use on an FSO. The capacity of the turret had to allow for moderate environmental conditions and pigging facilities for multiple risers.

Modification of Existing Internal Turret Mooring for Dis-connectable Operation (Teekay Petrojarl)

Work involved the development of a design for a dis-connection system to allow for the modification of an existing permanently moored internal turret mooring into a dis-connectable turret mooring to allow the FPSO to utilise a submerged buoy for mooring. The design included the buoy locking mechanism, riser connection system, buoy recovery system and alignment system, and structural integration into the existing turret structure. Basic overall project execution strategy, schedules and budgets were also included as part of the scope of work.

Mooring System Study for FSO in Shallow Water (Hibiscus Petroleum)

Work involved the preliminary mooring analysis and evaluation of two types of mooring systems for permanently mooring an FSO in a shallow water environment. The study included the evaluation of the mooring loads, riser interfaces, integration into the vessel and installation constraints for each system.

Study for an FLNG Unit for Near Shore Deployment (TMT Co Ltd)

The work involved the development of an FLNG concept for use in a near shore location to liquefy pipeline gas supplied to the unit. The scope included the selection of gas process facilities, utility systems, mooring system, LNG storage concepts and offloading.

FPU Concept Development for Gulf of Mexico (Alpha Petroleum Services)

The work involved the development of a permanently moored FPU concept for use in the development of an offshore gas field in the Gulf of Mexico.

Development of CALM Buoy Mooring for FSO in Marginal Fields (Teekay)

The work involved the detail engineering and design of a CALM buoy system for use in marginal field developments in S.E Asia. The scope included detailed drawings and specifications for the construction of the CALM buoy system including the mooring lines and hose assemblies.

Development of Internal Turret Mooring Concept for FPSO (Premuda)

The work involved the development of a design to convert a dis-connectable turret mooring system into a permanent turret mooring system to allow for the redeployment of an existing FPSO. The design basis required the reuse of many of the original system components so as to minimize the cost involved. These included the main bearing arrangement, fluid transfer system, winch systems and piping systems.

Development and Design of Fluid Swivel for CALM buoy (Promor R&D)

The work involved the detail engineering of a multi-port large capacity fluid swivel for use on CALM buoy systems. Unit functional requirements included highly viscous fluids and operating pressures.

Detail Engineering of Fluid Swivel Stack for FPSO (Rubicon Offshore International)

The work involved the detail engineering and drawings for the manufacture of a multi-port high pressure swivel stack assembly for process and gaseous fluids including utility swivel and electric swivel assemblies.

Detail Engineering of Fluid Swivel Stack for FSO (Samsung Heavy Industries)

The work involved the detail engineering and drawings for the manufacture of a pig-able multi-port swivel stack assembly for use on an FSO.

