PIONEERS
Integrated Solutions
WHERE SCIENCE MEETS INNOVATION
CONSULTING - TRAINING - INSPECTION

Floating Production Storage and Offloading (FPSO)

Course Description:

The use of Floating Production Storage and Offloading (FPSO) has been significantly increased in recent decades. FPSOs have lower cost relative to traditional offshore oil platforms. The latest FPSOs are used for developing deepwater oil fields and reserves where it is either not possible or not practical to install a fixed platform. It is crucial to understand the environmental and design aspects affecting the operation to operate FPSOs successfully. Also, beneficial to know all essential elements of FPSOs such as storage, offloading, power, utility system and safety. Floating Production Storage and Offloading (FPSO) training course will focus on the technical challenges and risks associated with the design, operation and maintenance of an FPSO. The participants from all disciplines will have a wealth of knowledge and a better understanding of FPSO projects.

The course will highlight

- **At the end of Floating Production Storage and Offloading (FPSO) training course, delegates will be able to**:
- Understand FPSO Industry overview.
- Learn about regulations and key operational and maintenance requirements
- Recognise the effects of the marine environment on FPSO design and operation
- Understand the FPSO storage and offloading operations
- Understand Health & Safety in operation and maintenance
- Environment aspects affecting FPSO design and operation

Course Methods

This interactive Training will be highly interactive, with opportunities to advance your opinions and ideas and will include;

- Lectures
- Workshop & Work Presentation
- Case Studies and Practical Exercise
- Videos and General Discussions

Course outline

- **Module 1 - Introduction to FPSO Industry**
- · Key Topics:
  - History of FPSOs
  - Introduction to FPSO technology
  - FPSO Layout
  - Design and Operation Considerations
  - Codes and Regulations
  - Inspection and Maintenance Requirements
- **Module 2 - Environmental and Design Aspects**
- Key Topics**:**
  - Environmental conditions
  - Mooring Lines and Anchors
  - Turrets and Swivel System
  - Pipeline Systems -Subsea Interfaces Subsea Umbilicals, Risers and Flowlines (SURF)
  - Subsea Pipeline installation
  - Marine & Structural Design Aspects
  - Lifesaving Appliances
  - Survival Craft

Course outline

Module 3 - FPSO Storage and Offloading

- Key Topics**:**
  - Cargo Handling Systems –Cargo and Ballast System
  - Crude Oil Loading and Discharge Arrangements
  - Crude oil storage, crude oil washing (COW)
  - Flare and vent System
  - Cargo Tank Vent and Inert Gas System
  - Inverting Operation
  - Custody transfer requirements
  - Tank entry safety procedure

- **Module 4 – Utility and Power Systems**
- **KeyTopics:**
  - Marine Systems
  - Utility Systems
  - Piping Systems
  - Offshore Electrical System
  - Gas Turbines
  - Development of Philosophies
  - Batteries and UPSs
  - Telecommunication

Course outline

Module 5 - Health, Safety and Environment (HSE)

Key Topics:

- Safety in Operation and Maintenance
- Machinery, Equipment and Safety Systems
- Safety and Emergency Systems
- Emergency shutdown systems (ESD)
- Hazards Areas
- Hazards Area Equipment
- Fire Protection and Fire Detection