

# GULF INSTITUTE



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# FPSO Operation and Maintenance

## INTRODUCTION

- For the successful operation of the FPSO it is of vital importance to understand the process from the wellhead through the topside process, storage and offload. Often putting together an operations team receives scarce publicity despite being one of the most important steps to a successful project. This 5-day Oil & Gas Technology training seminar on FPSO Operation and Maintenance will present the process from the wellhead through topside process, storage and offload.
- This FPSO Operation and Maintenance training seminar will focus on the key technical challenges and risks associated the operation and maintenance of an FPSO. It will arm the participant with a wealth of knowledge to help them advance their project.

This training seminar will feature:

- Operation and Maintenance – Guidance and General Requirements
- Environmental Influences Affecting FPSO Operation
- Cargo and Ballast Tanks
- Offloading Operations
- Control and Safety Systems
- Safety in Operation and Maintenance

## OBJECTIVES

By the end of this training seminar, participants will be able to:

- Identify the Key Operational Requirements
- Recognize the Effects of the Ocean Environment on FPSO Operation
- Understand the FPSO Process System
- Appreciate Safety in Operation and Maintenance

## TRAINING METHODOLOGY

- This FPSO Operation and Maintenance training seminar will utilise a variety of proven adult learning techniques to ensure maximum understanding, comprehension and retention of the information presented. The daily workshops will be highly interactive and participative. This involves regular discussion between both delegates and training seminar director. This Oil & Gas Technology training seminar will provide the participant with an in-depth knowledge through detailed information, real-life case studies, photos and video animation.

## ORGANISATIONAL IMPACT

- For the operation and maintenance of a FPSO, a firm knowledge of all systems is essential. To ensure the smooth day-to-day running of the FPSO, it is important to have educated, knowledgeable and well-trained personnel that:
- Understand the entire vessel and the topsides
- Is aware of the equipment operating conditions and requirements
- Understands the operation and interaction with process systems and dependences
- Is aware of safety in operation and maintenance

In sending delegates to this training seminar, the organisation will gain the following benefits:

- Develop a technically strong team
- Increase efficiency
- Optimize production performance at lower costs
- Reduce maintenance cost over the lifetime of the equipment
- Increase safety levels
- Minimize downtime
- Ensure environmental compliance

## PERSONAL IMPACT

- Understanding of the entire system (process and marine) will provide the participants with the tools necessary to find answers and solutions and make appropriate decisions to progress in present and future positions.

This training seminar will provide a multidisciplinary understanding of:

- Applicable procedures and guidelines
- The impact of the ocean environment on operation
- The impact of the process system on safety
- Maintenance of equipment and preventing problems

## WHO SHOULD ATTEND?

This training seminar is suitable to a wide range of professionals but will greatly benefit:

- Technical Staff
- Project Engineers, Engineering Discipline Leads, Engineering Specialists, and Operating Staff
- Maintenance Technicians, Supervisors, and Managers, as well as other non-engineering personnel

## Course Outline

### Introduction to Floating Production, Storage and Offload

- Introduction to FPSO Design and Technology
- Rules, Regulations, Codes and Standards
- Operation Requirements
- Maintenance – Guidance and General Requirements
- Plant Inspection
- Plans Procedures and Records
- Processing Operations
- FPSO Process System

### Environmental and Design Aspects affecting Operation

- Corrosion and Corrosion Protection
- Stress Buckling and Fatigue
- Hull Structural Assessment
- Topsides
- Mooring Lines and Anchors
- Turret and Swivel System
- SURF and Subsea Interfaces
- Accommodation and Lifesaving Equipment

### Storage and Offloading

- Cargo Pumping System Characteristics
- Cargo Storage
- Cargo Heating
- Cargo Blanketing and Venting
- Crude Oil Wash
- Cargo Control System
- Cargo Metering
- Tank Entry
- Ballast System
- Cargo Loading and Stability

## Power Heating and Utility Systems

- Power Generation and Heating
- Power Distribution System
- Heating Sources and Generators
- UPSs and Batteries
- Cooling System
- Utility Systems
- Electrical System
- Piping
- Instrumentation
- Telecommunication
- HVAC

## Safety in Operation and Maintenance

- Control and Safety Systems
- Safety Instrumentation
- Accessibility to the FPSO Offshore Plant
- Fire Prevention and Control (F&G)
- Hazards associated with Process Fluids
- Assessment of Hazards
- Emergency Plan – equipment and procedures
- Fire Prevention and Control
- Electrical Safety
- Emergency Shutdown

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