
Arabian Institute For Training

FPSOFLNG E&I Design Installation and Operation

INTRODUCTION

- This 5-day FPSO/FLNG E&I Design Installation and Operation training seminar provides a complete and comprehensive technical overview of electrical systems, instrumentation, process control and safety systems on FPSOs and FLNGs. This training seminar covers measurement principles and provides a whole spectrum of subjects ranging from basic E&I engineering through to advanced practice in hazardous areas and data communications.
- This training seminar highlights the safety aspects in design, installation and operation of equipment, and will arm the participants with a wealth of knowledge to help them advance their project.

This training seminar will feature:

- Electrical Safety
- Power Generation and Distribution
- Electrical Equipment in Hazardous Areas
- Measurement and Control
- Systems Safety Instrumentation
- Documentation

OBJECTIVES

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

- Identify the safety risks involved in power systems
- Understand the principles of protecting electrical equipment
- Selecting and integrating power distribution systems
- Interpret power demand and power users
- Defining the key requirements for instrument specifications

TRAINING METHODOLOGY

- This FPSO/FLNG E&I Design Installation and Operation 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. The training seminar will provide the participants with an in-depth knowledge through detailed information, real-life case studies, photos and video animation.

ORGANISATIONAL IMPACT

- For the E&I design and installation for FPSOs and FLNGs, firm knowledge of the fundamental principles of the various systems is essential. To be capable of handling the numerous project challenges and stay within budget and schedule, it is important to have educated, knowledgeable and well-trained personnel that:
- Understand the safety risks involved in power systems
- Understand power demand and power users
- Is aware of the key requirements for instrument specifications
- Appreciate the interdisciplinary nature and teamwork required for successful projects
- Understand the rules, regulations and industry standards
- Adopt the industry best practices and recommendations

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

- Develop a technically strong team
- Increase efficiency
- Realise higher performance at lower costs within compliance
- Control the project budget and prevent overruns

PERSONAL IMPACT

- Understanding of the key drivers for the design and installation of electrical systems, instrumentation, process control and safety systems on FPSOs and FLNGs will provide the participants with the tools necessary to find answers and solutions to make appropriate decisions to progress in present and future projects.

This training seminar will provide multidisciplinary understanding of:

- The Safety Risks involved in Power Systems
- The Principles of Protecting Electrical Equipment
- How to analyze the power system in case of any possible problems and capability of finding the issues and solving them (troubleshooting)?
- The Impact of Your Role in the Project

WHO SHOULD ATTEND?

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

- Designers
- Managers and Operators
- Technical Staff
- Project Engineers
- Engineering Discipline Leads
- Engineering Specialists
- Operating Staff

Course Outline

Introduction to Electrical System Design

- Electrical System Design Basis
- Standards
- Electrical Safety
- Design Criteria

Power Generation and Distribution

- Prime Movers
- High and Low Voltage Generators
- Generator Protection
- Photovoltaic Plants
- Plant Heat Rate Calculation – efficiency
- Switchboards
- Protection Devices
- Transformers
- Cables
- UPSs and Batteries

Power Distribution, Safety and Protection

- Variable Speed Drives
- Motors
- Safety and Protection
- Earthing

Instrumentation and Control I

- Introduction to Instrumentation
- Control System Design
- Field Instruments
- HART Protoco

Instrumentation and Control II

- Communication and Networking Systems
- Safety Instrumentation
- Automation
- Installation Requirements
- Subsea Instrumentation and Control System
- Valves
- Documentation (instrument loop diagrams, cable schedule, termination details, instrument layouts, logic drawings, construction installation details, wiring diagrams, P&IDs, etc.)


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