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COURSE BROCHURE

FPSO and FLNG Electrical and Instrumentation Training Course

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Registered in the United Kingdom and Saudi Arabia

FPSO and FLNG Electrical and Instrumentation Training Course

FPSO and FLNG Electrical and Instrumentation is a 1-week training course for electrical and instrumentation engineers and offshore commissioning leads, and it ends with an electrical and instrumentation readiness plan for a floating facility. Floating units pack large power loads, hazardous areas and complex control systems onto a moving hull. Jupiter Prime Training runs this course for floating asset teams.

Why FPSO and FLNG Electrical and Instrumentation Matters Now

Three forces shape E&I work on floating units. Gas compression, liquefaction and electrified drives push generation and distribution loads higher than on earlier vessels. Integration between topsides, hull and marine systems spans several contractors and yards, so interface gaps surface late at commissioning. Operators want lower emissions and fewer offshore personnel, which favours remote monitoring and condition-based maintenance. Projects that plan E&I well hand over units that start up on schedule and run reliably. Projects that do not face cable rework and long carry-over punch lists after sail-away.

Who Gains Most from FPSO and FLNG Electrical and Instrumentation

- Electrical engineers responsible for generation, switchboards, load shedding and power studies
- Instrument and control engineers responsible for process control, safety systems and field devices
- Commissioning leads responsible for system completion, loop checks and handover dossiers
- Offshore maintenance supervisors responsible for E&I reliability and spares after start-up
- Interface coordinators responsible for topsides, hull and marine system integration

Project and operations teams that send an electrical engineer, an instrument engineer and a commissioning lead together gain most.

FPSO and FLNG Electrical and Instrumentation Capabilities

The capabilities below follow E&I systems from single-line diagram to steady operation on a moving hull.

- Assess generation and distribution options, including turbine generators and load shedding schemes — power system design
- Specify hazardous area equipment and inspection routines for topsides modules — technical safety
- Design instrumentation and control architecture linking process, safety and marine systems — control system integrators
- Build mechanical completion and commissioning sequences with loop and function tests — handover readiness
- Apply condition monitoring and maintenance strategies to offshore E&I equipment — operations reliability
- Communicate interface risks between topsides, hull and yard contractors — project management

Key FPSO and FLNG Electrical and Instrumentation Terms

- FPSO — Floating production, storage and offloading unit that processes and stores hydrocarbons at sea.
- FLNG — Floating liquefied natural gas facility that treats and liquefies gas offshore for export by carrier.
- Single-line diagram — A simplified drawing of the power system showing generators, switchboards, transformers and main feeders.
- Load shedding — Automatic disconnection of lower-priority loads to protect generators when supply is lost.
- Hazardous area classification — Zoning of spaces where flammable atmospheres may occur, setting the type of equipment allowed.
- Loop check — A test that confirms each instrument signal travels correctly from field device to control system.

FPSO and FLNG Electrical and Instrumentation Day by Day

Day 1: Floating Facility E&I Context

- FPSO and FLNG Process and Utility Overview — Electrical Load Drivers
- Topsides, Hull and Turret Interfaces — E&I Scope Split
- Motion, Vibration and Corrosion Effects — Equipment Selection Criteria
- Contractor and Yard Integration Models — Interface Register Ownership
- Emission and Manning Targets — Electrification and Remote Operation Choices

Day 2: Power Generation and Distribution

- Turbine Generators and Waste Heat Options — Generation Configuration
- Single-Line Diagram and Switchboard Arrangement — Redundancy and Segregation
- Load Flow, Short Circuit and Stability Studies — Protection Settings
- Load Shedding and Power Management Systems — Blackout Prevention
- Large Drive Motors and Harmonics — Compressor and Pump Power Quality

Day 3: Hazardous Areas, Instrumentation and Control

- Hazardous Area Classification on Topsides — Zone Drawings and Equipment Choice
- Protection Concepts and Inspection Routines — Hazardous Area Integrity
- Process Control and Safety System Architecture — Separation and Independence
- Fire and Gas Detection Layout — Detector Coverage on Modules
- Marine and Process Control Integration — Shared Alarm Philosophy

Day 4: Installation, Commissioning and Operations

- Cable Routing, Glanding and Termination Standards — Rework Prevention
- Mechanical Completion and System Handover — Completion Database Use
- Loop Checks and Function Tests — Start-Up Readiness
- Carry-Over Punch Items and Offshore Hook-Up — Sail-Away Decisions
- Condition Monitoring and Spares Strategy — Offshore E&I Reliability

Day 5: Practising the Electrical and Instrumentation Readiness Plan

- Scope and Interface Map — Applying Day 1 Context to a Case Unit
- Power System Check — Applying Day 2 Studies and Settings
- Hazardous Area and Control Review — Applying Day 3 Methods
- Completion and Commissioning Sequence — Applying Day 4 Handover Steps
- Electrical and Instrumentation Readiness Plan — Milestones, Owners and Acceptance Criteria

Applying FPSO and FLNG Electrical and Instrumentation After the Course

- Review the interface register for topsides, hull and marine systems and assign owners to every open E&I item.
- Run a sample of loop check records against the completion database to find gaps before handover.

FPSO and FLNG Electrical and Instrumentation Questions FAQ

What is FPSO and FLNG electrical and instrumentation and why does it matter now?

FPSO and FLNG electrical and instrumentation covers the power, control, safety and field device systems on floating production units. It matters now because rising power demand, multi-contractor interfaces and remote operation make E&I decisions critical to start-up and reliability.

Which roles gain most from FPSO and FLNG electrical and instrumentation training?

Electrical engineers, instrument and control engineers and commissioning leads gain most, with offshore maintenance supervisors and interface coordinators.

How does FPSO and FLNG electrical and instrumentation differ from onshore power systems training?

FPSO and FLNG electrical and instrumentation addresses motion, space limits, hazardous modules and hull interfaces at sea. Onshore power systems training covers grid-connected plants without marine integration or floating hook-up.

What do you bring back from FPSO and FLNG electrical and instrumentation training?

You bring back an electrical and instrumentation readiness plan for one floating unit, with interfaces, power checks, hazardous area review and commissioning sequence.

FPSO and FLNG Electrical and Instrumentation: The Way Forward

The electrical and instrumentation readiness plan first informs which systems are complete enough to commission at the yard and which carry over offshore. Electrical, instrument and commissioning leads use it with yard and operations teams. After start-up, revisit carry-over items and early failures to sharpen completion criteria for the next unit.