Training - Maintenance Superintendent

MAINSI-EN-P | **Face-to-face only** | **61 days**

This course develops managerial and communication skills while providing an in-depth technical knowledge stretching over a wide range of issues and advanced topics in relation to the maintenance and operation of Oil & Gas treatment facilities. This certifying training deals in details with effluent processing, HSE, equipment maintenance and management

IFP Training Certificate

Vocational Certificate

Level

Skilled

Public

Professionals with a significant experience in maintenance of Oil & Gas production facilities, called on to hold the position of maintenance superintendent

Objectives

Attendees will be able to implement the following skills:

- Describe the Oil & Gas production chain, from reservoir to offloading facilities
- Explain technology, working principle, operation and maintenance of main equipment in Oil & Gas facilities
- Anticipate production constraints and their consequences on maintenance
- Describe HSE management rules and responsibilities
- Use adapted work methods and communication skills
- Prepare and manage effectively a global maintenance plan

Pedagogical & technical resources

- Several applications and illustrations
- Several teamwork sessions
- Several tutorials with equipment in a fully equipped workshop

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

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Program

INTRODUCTION — 1 day

Welcome and program overview. Entry test. Units. Dimensions.

DOWNHOLE PRODUCTION - WELL PERFORMANCE - PRODUCTION FUNDAMENTALS — 5 days

Fundamentals of reservoir engineering. Well testing. Fundamentals of drilling, completion and well servicing. Artificial lift (pumping, gas lift...) and well performance. Effluent behavior. Fundamentals of thermodynamics. Specifications. HSE management.

OIL, WATER & GAS PROCESSING — 5 days

Oil processing: required specifications; stabilization; dehydration, desalting. Production and injection water treatment: why a water treatment; expected qualities and required treatments; operating conditions. Gas processing: required specifications; dehydration; hydrates, consequences and treatments; Natural Gas Liquids recovery. Work on study cases to detail processes and concerns.

OFFSHORE DEVELOPMENTS, FLOW ASSURANCE — 2 days

Offshore developments challenges, technology and techniques and production constraints. Fixed and floating production structures. Prevention of deposits in flowlines. Multi-phase flows in flowlines.

TERMINAL, FSO & FPSO — 1 day

Overview of oil terminals. FSO & FPSO technologies. Metering of oil quantities.

BEHAVIORAL MANAGEMENT — 5 days

Teamwork management, written and oral communication. Active listening and communication tools. Team cohesion and stress management. Problems analysis and investigation: tools and behaviors. How to better analyze and know oneself.

INSTRUMENTATION & PROCESS CONTROL - ELECTRICITY — 5 days

Instrumentation and process control: functional blocks, symbolization; pneumatic, electrical and digital technologies; measurements, sensors, security equipment; control equipment, actuators; controllers and control loops; Distributed Control System (DCS): architecture, connections; Safety Instrumented Systems (SIS): HIPS, ESD, EDP, FGS. Electricity: generation (turbines, alternators, monitoring, troubleshooting); distribution (HT-BT networks, power supply, stability, constituents, cabinets, transformers, batteries, isolation, protections).

ROTATING MACHINERY (IN MECHANICAL WORKSHOP) — 10 days

Pumps: pumping prerequisites: pressure, flowrate, head; centrifugal pumps: types, technology, auxiliaries, performances; volumetric pumps. Compressors: compression prerequisites: technology, auxiliaries, practical laws; centrifugal compressors: rotor, stator, bearings, shafts, seals balance; reciprocating compressors: frame, cylinders, pistons and rings, bearings, lubrication, cooling. Gas turbines: operating principles, compression, combustion, expansion, performances; technologies: compressor, combustion chamber, turbine, internal cooling; auxiliaries. HSE concerns. Technology and maintenance of the elements: bearings (ball, hydrodynamics, magnetic); shaft outlet sealing systems: braided and mechanical seals; rotors and shafts: balancing, geometric controls; coupling and alignments: types, stresses; diagnostics from process, vibration or oil analysis data; wear and rupture phenomena.

CORROSION, INSPECTION & INTEGRITY — 2 days

Corrosion mechanisms. Types of corrosions in the Oil & Gas industry. Corrosion prevention and monitoring, fundamentals of inspection.

MAINTENANCE MANAGEMENT - EQUIPMENT AVAILABILITY CONTROL — 5 days

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Maintenance policy and objectives. Reliability process implementation and follow-up. Reliability analysis and improvement. Maintenance costs and failure costs. Subcontracting, shutdown management, progress plans.

HSE RISKS & MANAGEMENT — 15 days

HSE risks, flammability, overpressure systems: PSV, flare and flare network, closed and open drains... Safety in operation: use of utilities, degassing/inerting, confined space entry, start-up & shutdown. Safety during construction and maintenance works: lifting & rigging, work at height, electrical safety... Work permit system. SIMultaneous OPerationS (SIMOPS) management... Safety engineering: HAZID, HAZOP, layout optimization and identification of major accidents. Risks matrix... Safety systems: HIPS, ESD, EDP, F&G, USS. Safety logic diagrams. Human factors. Opersafe: philosophy and methodology. Incident analysis and reporting. Root cause analysis.

REVISIONS - ORAL ASSESSMENT — 2 days

Sessions

Pau - From 09/15/2026 to 12/08/2026 — **45840 €/HT**

To French entities : IFP Training is referenced to DataDock ; you may contact your OPCO about potential funding.
Please contact our disabled persons referent to check the accessibility of this training program : referent.handicap@ifptraining.com

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