

Training - Upstream Panel Operator

**PANELOP-EN-P****Face-to-face only****30 days**

This course provides the required skills to hold the position of panel operator with the appropriate attitude towards plant operation safety issues. Allow proactive and efficient adaptation to the position of control room operator, based on professional experience of participants

IFP Training Certificate

Vocational Certificate

Level

Skilled

Public

Experienced production field operators called on to hold a panel operator position in Oil & Gas production facilities

Objectives

Attendees will be able to implement the following skills:

- Adopt the fundamental methodology and philosophy to operate Oil & Gas production facilities from the control room
- Be convinced of the absolute necessity of a proactive behavior and to implement an anticipatory operation
- Analyze and react methodically to anomalies, incidents and emergency situations in a safe manner
- Implement emergency procedures

Pedagogical & technical resources

- Very practical training course with numerous exercises and case studies on dynamic simulator derived from real life situations
- The training is entirely delivered on dynamic simulator replicating a DCS environment

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
- An evaluation using simulator is realised at the end of each module

Prerequisites

No prerequisites are necessary to follow this course

Responsible

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

Program

MODULE 1: PROCESS CONTROL, DCS & SIS

5 days

Control room organization and panel operator role.

Panel operator reporting and handover duties. Plant documentation in control room.

Radio-communication.

Process control:

- Control loop. Field instrumentation.
- Controllers operating principles & parameters. Control loops structures.
- Standalone simulator: simple loop controller tuning and impact of P&ID actions; study of various control loop structures; typical transmitters faults.

Distributed Control System (DCS):

- DCS architecture and system components. Human-Machine Interface (HMI).
- HMI functions: trends, alarms... Automated sequences and Safety Instrumented Systems (SIS): PSS, ESD, HIPPS, EDP.

Examples of simulator exercises performed: DCS views and functionalities browsing; reading safety logics; package sequence analysis.

MODULE 2: WELL & PRODUCTION LINE OPERATION

2.5 days

Reservoir conditions and production modes. Production principles and physics applied to well.

Surface wells and subsea wells: equipment, architectures, operating procedures.

Common well interventions. Production and injection wells monitoring. Common troubles.

Safety and prevention/protection barriers.

Examples of simulator exercises performed: well; production lines section parameters analysis; FPSO case.

MODULE 3: ROTATING MACHINERY OPERATION

2.5 days

Centrifugal pumps:

- Technology, auxiliaries, operating parameters, protection systems.
- Pumps and operating conditions applied on simulator.
- Examples of simulator exercises performed: effect of a pressure decrease or level decrease in the upstream vessel; plugged strainer; gas carry-under.

Reciprocating compressors:

- Technology, auxiliaries, process circuit, operating parameters, protection systems.

Centrifugal compressors:

- Technology, auxiliaries, process circuit, operating parameters, control and protection systems applied on simulator.
- Examples of simulator exercises performed: effect of temperature change; surge conditions; start-up and shutdown sequences.

MODULE 4: SURFACE PROCESSING OPERATION

5 days

Crude oil processing: stabilization, dehydration and desalting.

Gas processing: sweetening, dehydration, condensate recovery and fractionation.

Water processing: produced water treatment and introduction to injection water processing.

Examples of simulator exercises performed: influence of oil dehydration parameter; foaming symptoms; impact of TEG unit operating conditions; loss of a compressor; limited gas lift...

MODULE 5: SURFACE PROCESSING OPERATION/INTEGRATED PLANT OPERATION

5 days

Alarms: priorities management and decision making.

Panel operator reporting, shift handover and take-over duties: shift report and impact of a faulty report through

role play situations.

Global plant performance checks: identification and implementation of a routine checks roadmap: identifying key parameters and trending them to anticipate deviations.

Radio communication and other communication means. Communication good practices.

Oil transfer operations: storage and export, gas metering.

Analysis of an integrated plant behavior: inertia and interferences.

Analysis of production facilities shutdown philosophy: implementing safe plant shutdown procedure on simulator.

MODULE 6: INTEGRATED PLANT OPERATION/SAFETY IN OPERATION

5 days

Analysis of production facilities start-up philosophy.

Implementing safe plant start-up procedure on simulator:

- Operating parameters analysis and anticipation of process upset.
- Generation of several malfunctions (by the instructor) to be fixed.

Learning to react and act to process upsets in a structured manner.

Identification, analysis and containment of process upsets according to the learnt methodology.

Examples of simulator exercises performed:

- Operating parameter analysis and anticipation of process upset.
- Managing slugs.
- Gas leakage to the flare.
- Production rate decrease.
- Partial loss of cooling water.
- Overpressure in storage tanks.
- Generation of several malfunctions (by the instructor) to be fixed.

MODULE 7: SAFETY IN OPERATION

5 days

Routine operations: permit to work, safe isolation of plant equipment.

Downgraded situations. SIMOPS.

Learning to operate the plant in critical situation, to make adequate decision, to follow-up on actions performed:

- SIS: Process and emergency shutdown levels - Related Panel Operator role and duties.
- Emergency shutdown procedures.

Examples of simulator exercises performed: inhibition and downgraded situation mitigation (faulty pressure transmitter, SDV blocked open...); ESD activation due to process safety trip; manual ESD activation following leakage detection; emergency shutdown procedures implementation and follow-up (monitoring).

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