

Training - Production Facilities Control Room Operation



ADVCCR-EN-P



Face-to-face only



10 days

This course aims to acquire best practices of production facilities control room operation through role-play situations on integrated Oil & Gas production plant dynamic simulator

Level

Skilled

Public

Experienced control room operators and production supervisors looking to advance their know-how in control room operation

Objectives

Attendees will be able to implement the following skills:

- Analyze and anticipate behavior of main control loop structures (DCS and SIS systems architecture and functionalities)
- Explain production equipment, process operating parameters and perform troubleshooting
- Implement proactive, anticipatory control room operation and acquire a safety mindset
- React and act in a structured manner to anomalies and plant upsets
- Enforce safety guidelines during downgraded and critical situations

Pedagogical & technical resources

- Extensive practice on integrated Oil & Gas production plant dynamic simulator
- Numerous case studies and role-play situations

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

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

GETTING STARTED - DCS FUNCTIONALITIES FOR PROPER ANALYSIS

1 day

Familiarization with HMI functions and operation.
DCS tools review.

PROCESS CONTROL & SAFETY INSTRUMENTED SYSTEMS**1 day**

Impact of P&ID parameters and simple closed loop tuning.
Study of control loop structures: cascade, split-range on simulator.
Programmable logic controllers: introduction to automated sequences.
Monitoring of start-up sequence (compressor) through MMI.
Safety Instrumented Systems (SIS): PSS, ESD, HIPPS and F&G systems description.

WELLS & PRODUCTION LINES OPERATION**1 day**

Well start-up (ramp-up) and shutdown.
Analysis of automatic well control.
Well monitoring and detection of abnormal conditions.

ROTATING MACHINERY OPERATION**1.5 days**

Centrifugal pumps.
Centrifugal compressors:

- Technology review, study of process and auxiliary lines, protection systems.
- Start-up and shutdown sequences.
- Analysis of operating conditions and operating parameters.

PROCESS UPSET MANAGEMENT**2.5 days**

Alarms: priorities management and decision making.
Becoming aware of the need for anticipation VS on-alarm action.
Managing and predicting process disturbances by using trend views. Use of trends to anticipate deviations.
Global plant performance checks: identification and implementation of a routine checks roadmap.
Shift report and impact of a faulty report through role play situations.
Process upsets: learning to react and act in a structured manner.
Identification, analysis and containment of process upsets according to the learnt methodology.
Example of simulator exercises performed:

- Loss of centrifugal compressor.
- Loss of cooling media.
- Production rate decrease.
- Unexpected slugging.
- ESD activation due to process safety trip.
- ...

SAFETY IN OPERATION**1 day**

Learning to operate the plant in critical situation, to make adequate decision, to follow-up on actions performed.
Example of simulator exercises performed:

- Gas leakage to the flare.
- Inhibition and downgraded situation mitigation (faulty pressure transmitter, SDV blocked open...).
- Manual ESD activation following leakage detection.

PRODUCTION START-UP**1 day**

Analysis of production facilities start-up philosophy.
Safe plant start-up.
Implementing start-up procedure on simulator:

- Operating parameters analysis and anticipation of process upset.

- Generation of several malfunctions (by the instructor) to be fixed.

CONTINUOUS ASSESSMENT TEST

1 day

Weekly tests on simulator.

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