

# Training - The Essentials for Field Operators



FTBO-EN-P



Face-to-face only



40 days

This course provides operators with the knowledge and know-how required for safe, efficient and reliable field operations

## Level

Knowledge

## Public

- Operators of oil refineries or chemical plants, without any operator certification background
- Technicians or staff to be retrained as operators in the chemical, petrochemical or oil industries

## Objectives

Attendees will be able to implement the following skills:

- Specify the elements of communication that allow you to work effectively in a team
- List the monitoring points of a unit
- List the types of operations of a unit
- Identify risks to equipment
- List unit settings to optimize production and product quality
- Identify possible causes of process disruption
- Specify the points to be taken into account in order to prepare, start up and shut down a unit

## Pedagogical & technical resources

- IFP Training classroom training uses interactive delivery methods (tutorials, case studies, role playing)
- During classroom training, short practical on-site exercises on specific pieces of equipment
- In between IFP Training classroom modules, On-the-Job Orientation on Clients' assigned unit

## 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

## PIPING - VESSELS - STORAGE TANKS - DRAWINGS

6 days

Valves, fittings, flexible hoses, safety devices/interlocks. Vessels, storage tanks. Identification symbols for various items of equipment.

Block diagrams, flow sheet, P&ID. Introduction to isometric drawings.

- Field applications: equipment recognition, practical exercise of line-plotting, demonstration equipment in the workshop (when available).

## INSTRUMENTATION & CONTROL DEVICES

7 days

Physical variables used in process operations (pressure, temperature, flowrate, density, specific gravity).

Components of a control loop. Instrumentation: workings and operation.

- Field applications: practical exercise on control loops, demonstration loops (if available), work on Man-Machine Interface in control room.

## HEAT EXCHANGE EQUIPMENT

7 days

Heat, energy and heat transfer. Heat exchangers: technology, main types, workings and operation.

- On-site practical exercise on a heat exchanger.

Furnaces and boilers: technology, combustion, draft and operation.

- On-site practical exercise on furnaces/boilers.

## ROTATING MACHINERY

8 days

Fluid flows.

- Rotating machinery field recognition.

Centrifugal and positive displacement pumps.

- On-site practical exercise on pumps.

Centrifugal and reciprocating compressors.

Single stage, back-pressure steam turbines.

- On-site practical exercise on a compressor or turbine.

Electric motors operation.

Extruder.

## PROCESSES - PRODUCTS - SAMPLING & TESTING - UTILITIES

5 days

Basic chemistry. Chemical products and chemical solutions: composition and hazards.

Chemical reactions.

Vapor pressure and boiling point.

Distillation: principles of the separation, distillation columns.

Products. Quality control tests. Sampling.

Principles of manufacturing processes.

Notion of material and heat balance.

Manufacturing process diagram.

Utilities: flare network, wastewater treatment, cooling water, air production.

- On-site practical exercise on different processes (main equipment, operating conditions).

## OPERATORS' TOOLS - SKILLS & ORGANIZATION

2 days

Plant documentation: inventory, content, usage.

Radio communication. Teamwork.

Reporting and handover duties.

- Role plays.

**SAFETY****5 days**

Product hazards: flammability, toxicity, physical hazards.

- Job Safety Analysis for field operators' routine activity (equipment check, circuit alignment, sampling, etc.).

Emptying processes: blind and gasket fitting, degassing and inerting, entering a vessel.

Example of procedures for equipment shutdown and start-up.

Safe behavior.

- Field hazard recognition and prevention means plotting.
- Case studies - Group work. Lessons learned.

**ASSESSMENT (DURATION INCLUDED IN THE PREVIOUS CHAPTERS)**

Continuous assessment: written tests and oral presentations.

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](mailto:referent.handicap@ifptraining.com)