

Blended Learning This course offers a combination of online and face-to-face training sequences

Safety in Plant Operation

4 days
Overview

SECP-EN-B

LEVEL

Knowledge

PURPOSE

This course provides trainees with a better understanding of product and equipment risks in order to ensure safe operation.

LEARNING OBJECTIVES

Upon completion of the course, participants will be able to:
identify and assess the risks inherent to product handling, equipment use and operations,
measure the possible consequences on safety, health and the environment,
apply recommended preventive measures,
adopt the most appropriate behavior to counter risks.

WAYS AND MEANS

E-learning modules before the training to learn & refresh knowledge about risks.
Workshop: preparation of shutdown, decommissioning or/and commissioning, start-up procedure for a typical unit.
Case studies and analysis of incidents and accidents.

LEARNING ASSESSMENT

Quiz.

PREREQUISITES

Provide evidence of a professional experience of at least 3 months within Safety, Operation, Maintenance, or Engineering department belonging to process industry.

MORE INFO

This course is also available in Dutch, Italian and Spanish. This training is carried out in Blended Learning:
- 1st: e-learning including four modules, carried out individually and in advance by the participants via IFP Training LMS.
- 2nd: training session in classroom with all the participants.

Agenda

E-learning: PRODUCTS HAZARDS – PREVENTION & OPERATING PRECAUTIONS

MODULE 1 - OCCUPATIONAL HEALTH & SAFETY

Vocabulary and safety indicators.
Potential hazards in facilities.
Hazardous products classification.

MODULE 2 - FLAMMABILITY

Combustion phenomenon.

Ignition sources and consequences of a combustion.
Preventive measures against ignition risks.

MODULE 3 - OCCUPATIONAL HEALTH

Products toxicity.
Specific risks from most common products used in plants.
Chemical risk prevention.

MODULE 4 - FLUIDS BEHAVIOR

Pressure in a vessel.
Heat addition consequences.
Heat removal consequences.

TRAINING SESSION (4 days)

PRODUCTS RISKS: PREVENTION & OPERATING PRECAUTIONS

1 d

Case studies involving products risks analyzed in subgroups, in order to strengthen information from the e-learning. Share ideas with the entire group. Lessons learned.

SAFETY IN PROCESS OPERATIONS

2.75 d

Precautions and risks related to the use of utilities: inert gases, liquid water, steam, air, gas oil, fuel gas.
Safety related to blowdown and drainage toward: flare, slops, tanks, oily water...
Blinding (lockout/tag-out) procedures: conditions for installing blinds or spades.
Degassing-inerting: steam, nitrogen, water, vacuum ...
Works permits: different types and use.
Entry into vessels. Atmosphere analysis: oxygen content, explosivity, toxicity.
Start-up: checks, accessibility and cleanliness, line up, nitrogen, water, steam or vacuum deaeration.
Tightness testing; commissioning and start-up.

HANDS-ON ACTIVITIES ON A TYPICAL UNIT DECOMMISSIONING

Case study, common thread of this training, used as a workshop with different groups of trainees in order to apply the different topics for decommissioning and commissioning & Start Up. Procedure writing with instructions for each step. Presentation to the group, sharing & discussions. Lessons learned.

IMPLEMENTATION OF THE PRINCIPLES & GUIDELINES

Preparation of shutdown, decommissioning or/and commissioning, start-up procedure for a typical unit.
Common thread throughout the training, carried out sequentially during the session, in order to increase mutual understanding of decommissioning principles. Lessons learned.

HUMAN BEHAVIOR & SAFETY MANAGEMENT

0.25 d

Human factors. Safety barriers, compliance with procedures, risk of routine.
Employees' involvement: commitment and responsibility.
Available tools to improve safety: procedures, risk assessment, safety meetings, accident investigation and reporting, audits, field observations, emergency drills.