Training - Module 2: Oil and Water Processing

ADV2-EN-P | Face-to-face only | 5 days

This course provides a comprehensive understanding of oil and water treatment processes, operation and troubleshooting

Level
Skilled

Public
Engineers involved in operating or designing oil and water field processing facilities

Objectives
Attendees will be able to implement the following skills:

- Master oil and water treatment processes, operations and related operating conditions
- Design main equipment used for oil processing
- Troubleshoot main operating problems encountered in oil and water processing and related solutions
- Simulate crude oil treatment processes using the PRO/II™ software

Pedagogical & technical resources

- Highly interactive training with industry-specialist lecturers
- Numerous applications and illustrations
- Extensive practice of PRO/II™ process simulation software

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
To attend Module 1 (ADV1-EN-P) or to demonstrate a professional experience in process simulation

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

Program

NEED FOR OIL FIELD PROCESSING - QUALITY REQUIREMENTS — 0.25 day

Constituents raising problems for storage, transport, or crude oil sale.
Different specifications and quality requirements of crude oils.
Necessary treatments to reach these specifications.
Examples of compositions of commercialized crude oils.

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CRUDE OIL TREATMENT — 2.75 days

Crude stabilization by Multi Stage Separation (MSS):

- Process principle.
- Operating parameters: number of separation stages, pressures, heating and cooling needs... - Influence on the quantity and quality (API grade) of the produced oil.
- Foaming problems and main available solutions.
- Associated gas recompression - Typical associated gas compression schemes.
- Applications: practice of separator summary design methods.
- PRO/II™ simulation: study of the influence of separation stage number on the performances of a MSS process.

Crude dehydration and desalting:

- Emulsion problems.
- Main dehydration processes.
- Crude oil desalting.
- Applications: practice of desalter summary design methods.

Acid crude sweetening (H2S removal):

- Cold stripping: origin of stripping gas, need for sweetening of stripping gas.
- Hot stripping.
- Applications: practice of stripping column summary design methods.
- PRO/II™ simulation: simulation of a crude oil stripping units case study.

Case study: simulation of a whole crude oil field treatment plant; study of an offshore crude oil field treatment unit, based on a Multiple Stage Separation (MSS) process scheme; optimization of the operating parameters.

STORAGE EQUIPMENT — 0.5 day

Atmospherics tanks.
Case of floating storage vessels (FSO, FPSO).
Maintenance and operation.

PRODUCTION WATER TREATMENT — 0.5 day

Regulations for disposal.
Main treatments. Operating principle and required performances.
Comparison of the different available techniques. Selection criteria.
Examples of production water treatment block flow diagrams.

INJECTION WATER TREATMENT — 1 day

Reasons for water injection.
Quality requirements and necessary treatments.
Main operating conditions of each treatment and required performances.
Examples of injection water treatment block flow diagrams.

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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