Training - Gas Sweetening and Sulfur Recovery

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

This course provides a comprehensive technical review of sour gas treatment, sulfur recovery, conditioning processes and storage facilities, including operating and troubleshooting issues

Level

Knowledge

Public

Professionals interested in sour gas: engineers involved in Oil & Gas field facilities operation or design, managerial staff in gas processing facilities, equipment providers, personnel from engineering companies

Objectives

Attendees will be able to implement the following skills:

- Comprehend all concerns linked to sour gas treatment and sulfur recovery
- Review sulfur and acid pollutants main physical properties, specificities and induced hazards
- Understand operating principles and conditions of gas sweetening and sulfur recovery/handling processes
- Grasp main operating problems encountered in sour gas processing and sulfur recovery and handling

Pedagogical & technical resources

- Highly interactive training by industry-specialist lecturers
- Numerous applications and illustrations
- Parts of the session customizable to a virtual remote classroom

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

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

OVERVIEW OF GAS SWEETENING PROCESSES — 0.25 day

Nature, origins and compositions of the streams to be treated.
The properties of sulfur compounds and CO2.
Reasons for removing acid gases, usual specifications.
Cost impact of gas sweetening and stakes.

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Acid gas management, impact on the sweetening unit.
The different types of gas sweetening processes.

AMINE SWEETENING PROCESSES — 1.5 days

General principles.
Generic processes and proprietary processes.
Typical process flow scheme.
Amine unit design: key design parameters.
Specific process arrangements.
Equipment review, process control.
Operational issues and troubleshooting.
Specificities of amine units.
Elgin-Franklin, an example of a versatile MDEA sweetening unit.
An example of successive revamping of an amine unit.
Acid gas enrichment.

OTHER GAS SWEETENING PROCESSES — 0.75 day

Scavengers.
Solid bed processes.
Redox processes.
Other solvent processes: hot carbonate, physical solvents, hybrid solvents.
Permeation membranes.
Cryogenic distillation processes.
LPG sweetening.
Guidelines for process selection.

RECOVERING SULFUR FROM ACID GASES — 0.25 day

Architecture of the sulfur recovery facilities.
Sulfur properties.
The sulfur market (sulfur uses).

SULFUR RECOVERY UNITS (CLAUS) — 1.25 days

Chemical mechanisms and general process flow diagram.
Key parameters of the Claus process.
The thermal stage.
The catalytic stages.
Adapting the process to the acid gas quality (rich/lean acid gas).
Operational issues.

TAIL GAS TREATMENT — 0.75 day

Types of TGT processes.
Direct oxidation processes.
Sub-dew point processes.
Wet sub-dew point process.
H2S absorption processes.

SULFUR CONDITIONING & STORAGE — 0.25 day

Liquid sulfur degassing.
Sulfur forming.
Sulfur storage.

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Please contact our disabled persons referent to check the accessibility of this training program : referent.handicap@ifptraining.com

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