€TRAINING

Gas Processing Fundamentals

1 - 5 June 2025
Dubai (UAE)

Gas Processing Fundamentals

REF: E1283 DATE: 1 - 5 June 2025 Venue: Dubai (UAE) - Fee: 5830 Euro

Introduction:

Gas processing involves the separation, purification, and treatment of raw natural gas to remove impurities and extract valuable components, ensuring the production of marketable gas and by-products like natural gas liquids NGLs. This training program covers the principles and practices of treating natural gas for various applications. It emphasizes the theoretical understanding required for effective gas processing in the oil and gas industry.

Program Objectives:

At the end of this program, participants will be able to:

- Explore gas treatment processes and system analysis in subsurface operations.
- Gain knowledge of gas dehydration, absorption, refrigeration, and LNG production.
- Explore the scope of LNG NGL gas processing in oil and gas facilities.
- Gain insights into the transfer operations and measurement techniques in the gas field.
- Acquire expertise in gas compression, processing, NGL recovery, and troubleshooting.

Targeted Audience:

- Process engineers along with petroleum and production engineers.
- Field operators and technicians.
- Company staff involved in gas treatment and processing.
- Process engineers who are new to the profession.
- Managers and government officials involved with supervising gas processing operations.
- Managers involved in the planning and development of new gas processing facilities or modifying existing facilities.

Program Outlines:

Unit 1:

Introduction to Natural Gas Processing:

- What is Natural Gas Processing.

- Fundamentals of Natural Gas Engineering.
- Physical Properties of Natural Gas.
- Natural Gas Production.
- Impurities in the Gas.

Unit 2:

Gas-Liquid Separation Systems:

- Gas-liquid Separation System.
- Separators types of separators - separator sizing.
- Common Variables such as Pressure, Temperature, Flow, and Level.
- Instrumentation, Control, and Measurement of Natural Gas and Gas Liquids.
- Control Valves & Actuators.

Unit 3:

Mercury Removal Systems / Hydrate Problems / Dehydration of Natural Gas:

- Mercury Problem in Natural Gas.
- Process Description of the Mercury Removal Units.
- Hydrate Formation Conditions.
- Hydrate Prevention and Mitigation Methods.
- Water Content Estimation.

Unit 4:

Dehydration of Natural Gas / NGL Recovery and Removal of Heavy Hydrocarbon:

- Glycol Dehydration Unit.
- Process Description of the TEG Triethylene Glycol Dehydration Unit.
- Factors affecting the TEG Dehydration Unit Performance.
- Troubleshooting of the TEG Dehydration Unit.
- Removal of Heavy Hydrocarbons LTS & turbo expanders systems.

Unit 5:

Sweetening Systems:

- Removal of Acid Gases H2S, CO2.
- Sweetening Systems: Membrane System.
- Troubleshooting & Problem Solving.
- Risk Management.
- Introduction to the Theory of Inventive Problem Solving.