

BASICS OF GAS PROCESSING

PRE003

COURSE DESCRIPTION

The global demand for natural gas as an energy source necessitates expertise in gas engineering technology. Balancing theory and application, this course provides an overview of the natural gas industry, spanning from the wellhead to the marketplace, with a focus on gas plant operations. The course utilizes process flow diagrams to illustrate the integration of various plant operations, enabling the handling of feeds from gas fields worldwide. Participants will develop a working knowledge of major processes including gas compression, dehydration, acid gas removal, tailgas cleanup, sulfur recovery, cryogenic extraction of natural gas liquids (NGL), LNG production, storage, and transportation.

COURSE GOAL

To enhance participants' knowledge, skills, and attitudes necessary for understanding major processes such as gas compression, dehydration, acid gas removal, tailgas cleanup, sulfur recovery, cryogenic extraction of natural gas liquids (NGL), as well as LNG production, storage, and transportation.

COURSE OBJECTIVES

By the end of this course, participant will be able to:

- Identify types of Gas Plant Products.
- Understand gas Production Facilities.
- Comprehend the field processing system of natural gas.
- Familiarize with gas processing equipment.
- Understand LPG/NGL fractionation.
- Comprehend gas handling and transmission systems.
- Familiarize with safety and environmental aspects.

WHO SHOULD ATTEND

- Process engineers.
- Chemical engineers.
- Foremen.

COURSE DURATION

5 Working Days

COURSE OUTLINES

1. Introduction & Overview.

2. Types of Gas Plant Products

- Sales gas.
- LPG.
- Condensates.

3. Gas Production Facilities

- Gas gathering system.
- Condensate Extraction facility.
- Gas transmission system.
- LPG facility.
- Sales gas Pipeline.
- Associated utilities.

4. Field Processing of Natral Gas

- Typical gas Processing System.
- Treating.
- Dehydration Techniques Compression.
- Chilling (refrigeration, Turbo-Expander, J.T.).
- Separation of Condensate & acid gas Problems.

5. Gas Processing Equipment

- General operating scheme.
- Absorption System.
- Stripping & Fractionation Columns.
- Amine regeneration tower.
- Purification.
- Gas Compression System.
- Heat exchangers & refrigeration package.
- Process vessels, piping, gas measuring, and control.

6. LPG/NGL Fractionation

- Feed/product streams & equipment items associated with the LPG/NGL Fractionation System.

7. Gas Handling & Transmission Systems

- LPG storage, loading & unloading.
- LPG products refrigeration.
- Gas transmission pipeline system, Dispatching & gas control.

8. Safety & Environmental Aspects

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