

Training
Course

Natural Gas Processing, Transmission, and Storage

Course Plan

Introduction

Natural gas plays a critical role in the global energy mix, serving as a cleaner-burning fossil fuel and a key resource for power generation, industrial processes, and domestic use. This training course provides a comprehensive overview of the natural gas value chain, with a focus on processing, transmission, and storage. Participants will explore the technologies, equipment, operational procedures, and safety practices involved in delivering natural gas from production to end users. Emphasis is placed on real-world applications, environmental compliance, and the latest industry developments to prepare professionals for challenges in the evolving energy landscape.

Course Objectives:

- ✓ Understand the composition and properties of natural gas.
- ✓ Describe the major stages of the natural gas value chain.
- ✓ Identify key processes and technologies used in gas processing.
- ✓ Analyze methods for removing contaminants such as water, CO₂, H₂S, and NGLs.
- ✓ Gain insight into gas compression, dehydration, and liquefaction systems.
- ✓ Understand pipeline design, operation, and monitoring.
- ✓ Evaluate safety and integrity management in transmission systems.
- ✓ Learn the principles and technologies of underground gas storage.
- ✓ Understand the regulatory and environmental frameworks governing the industry.

Who Should Attend?

- Petroleum, chemical, and process engineers
- Operations and maintenance professionals
- Pipeline and facility engineers
- Health, Safety & Environment (HSE) personnel
- Gas field supervisors and technicians
- Professionals involved in planning, logistics, and infrastructure development
- Anyone interested in gaining technical insight into natural gas processing and transport

Training Methods:

- ✓ Online Video material.
- ✓ Presentation.
- ✓ Live Interactive sessions.
- ✓ Course presenter will make extensive use of all tools that will be needed for the virtual environment.
- ✓ Questions & Answers

Course Outline:

Day One

- Overview of the Natural Gas Industry
- Properties and Composition of Natural Gas
- Natural Gas Field Development and Gathering Systems
- Phase Separation and Initial Treatment
- Gas Sweetening (Removal of H₂S and CO₂)

Day Two

- Dehydration Technologies (Glycol, Molecular Sieves)
- Hydrocarbon Dew Point Control and NGL Recovery
- Sulfur Recovery and Tail Gas Treatment
- Gas Compression Principles and Equipment
- Heat Exchange and Cooling Processes

Day Three

- Liquefied Natural Gas (LNG): Overview and Processing
- Gas-to-Liquids (GTL) Technologies
- Pipeline Design and Route Selection
- Compressor Stations and Flow Control Systems
- Pipeline Operations and Integrity Management

Day Four

- SCADA and Monitoring Systems for Gas Networks
- Leak Detection and Emergency Response
- Environmental Impacts and Emission Control
- Regulatory Compliance and Safety Standards
- Underground Storage Facilities (Depleted Reservoirs, Salt Caverns, Aquifers)

Day Five

- Line Pack and Seasonal Demand Balancing
- Metering and Custody Transfer Systems
- LNG Storage and Regasification
- Case Studies: Gas Network Failures and Lessons Learned
- Future Trends: Hydrogen Blending, CCS, and Energy Transition

Training Details

Course Duration	5 Days
Pre-Schedule	21 – 25 Dec 2025
Venue	Paris – Warwick hotel
Training Fees Per Person	KWD 1800 (One Thousand Eight Hundred Only)
Course Fees Include	<ul style="list-style-type: none"> ✓ Tuition documentation ✓ Curriculum and Training Handout ✓ Five star Lunch ✓ Completion Certificates ✓ Lunch Included