Flow Assurance in Gas Pipelines: Practical Approach

Course Price

£3050

Course Description

This short course will equip delegates with knowledge of the key engineering considerations for the safe and reliable delivery of natural gas via pipelines through industry-based examples of gas flow variables, prediction and optimization. This course will provide both theory and practical simulation from facilitator’s experience of the gas pipeline system using state-of-the art techniques, problem-solving and troubleshooting gas pipeline systems.

Course Objectives

The main objective of the course is to provide an in-depth understanding on the major parameters gas pipeline delivery relies on, and how each of such parameters could lead to flow assurance problems. The course will also demonstrate troubleshooting process for the major problems, such as condensate, wet gas, scale formation, hydrate formation and wax formation using theoretical and practical software simulation of existing flow assurance problems.

Who Should Attend

This course is suitable for all engineers dealing with oil and gas facilities design, operation and regulations. It is also valuable to management who are involved with decision making relating to gas pipeline supply options, and expansion schemes for both greenfield and brownfield projects.

Course Content

Day 1

- Introduction to Natural Gas flow assurance
- Crude Oil versus Natural Gas Flow Assurance
- Pipeline Sizing
- Pressure drop and velocity criteria using Codes and Standards
- Introduction to flow assurance simulations
Day 2

- Natural Gas Specifications
- Scale formation and removal techniques
- Hydrate formation and mitigations
- Asphaltenes prediction and mitigations
- Wax and condensation formation and mitigation
- Hydrate and wax deposition simulations

Day 3

- Pipeline modelling and simulations
- Pipeline Line pack volume and supply scenarios

Day 4

- Pipeline Networks and supply planning
- Pipeline overpressure scenarios

Day 5

- Pipeline looping and compression
- Theory and Simulation case studies
- Cost implications to pipeline looping and compression

CPD Unit

Continuing Professional Development

35 HOURS CPD