Design and Operation of Gas Gathering Systems

Course Price

£2750

Course Description

This natural gas course considers the wellhead to the central gas processing unit with emphasis on the design, operation and optimisation of gas gathering systems and all the associated field facilities. This course will focus on the main design variables that impact the flexibility and operational characteristics of a gas gathering system. Emphasis is put on the application of engineering principles to resolve common operating and design problems that are encountered. These problems include hydrates, two phase flow issues, and corrosion.

This short course in Design and Operation of Gas Gathering Systems covers such topics as: Introduction to Natural Gas Processing; Gas composition, physical and chemical properties of gases; CO2 content, rich and lean gases; Gas Gathering Systems; Pipeline Hydraulics; Two Phase Flow; Pipeline Design; Well-site and Pipeline Facilities; Pipeline Operations; Pipeline Construction Projects; Field Facilities; Compression and compressors; Inlet Separator Design; Hydrates, hydrate inhibition and gas dehydration, chemical inhibition and glycol dehydration; Adsorption systems, acid gas treating and sweetening; Natural gas liquids; dew point control and condensate stabilization; Hands on process simulation exercises

Course Objectives

- About the selection and evaluation processes used to dehydrate natural gas, meet hydrocarbon dew point specifications and extract natural gas liquids
- How to apply thermodynamic property correlations to the design and evaluation of gas gathering systems
- To recognize and develop solutions to operating problems in gas gathering facilities
- How to apply thermodynamic laws and principles to equipment design and operation
- The impact of produced fluids composition on gathering system design & operation

Who Should Attend

Engineers (including frontline and surface facility engineers); Geologists, Production & facilities department engineers/senior operating personnel; Gas process and facility personnel; chemists; project managers; technical personnel; member of reservoir management team; involving with appraisal or field development project, and/or reservoir management team intending to enhance their technical
skills and level of confidence in decision making by identifying produced gas problems issues and various operational constraints.

Course Content

Day 1

Introduction to Natural Gas Processing; Gas composition, physical and chemical properties of gases;

Gas Gathering Systems; Pipeline Hydraulics; Two Phase Flow; Pipeline Design; Well-site and Pipeline Facilities; Pipeline Operations; Pipeline Construction Projects;

Field Facilities; Compression and compressors; Inlet Separator Design;

Hands on process simulation* exercises

Day 2

Water-Hydrocarbon Systems; Hydrates, hydrate inhibition and gas dehydration, chemical inhibition and glycol dehydration;

CO2 Content; Adsorption systems, acid gas treating and sweetening;

Hands on process simulation* exercises

Day 3

Natural gas liquids; dew point control and condensate stabilisation; Natural Gas Liquids Recovery

Hands on process simulation* exercises

CPD Unit

Continuing Professional Development

21 HOURS CPD