Gas Conditioning & Processing

27 - 31 Aug 2017, Dubai
Introduction

This Gas Conditioning & Processing training seminar covers the basic concepts and techniques necessary to design, specify and manage gas field production facilities. It includes complete and up-to-date overview of gas conditioning and processing technology and provides a clear understanding of the equipment and processes used in common separation and gas treating systems.

The training seminar will also cover gas dehydration, sweetening and gas processing operations and the integration between the individual processing operations will be clarified. The gathering, separation and final treatment systems for natural gas will be discussed, as well as the concepts of export quality natural gas, field and fiscal measurements error. The products (Natural Gas, Condensate, Commercial Propane and Commercial Butane, etc.) specifications and the processes available to condition the gas in order to meet these requirements will also be covered.

Hydrocarbon reconciliation and allocation of produced fluids to the contributing reservoirs are explained and supported by exercises to cement the learning of the various topics treated. This training seminar will enable the participants to develop a feel for the important parameters of designing and operating a production facility. The participants will understand the uncertainties and assumptions inherent in designing and using the equipment in these systems and the limitations, advantages and disadvantages associated with their use.

This training seminar will feature:

- Gas conditioning and processing principles and systems
- Gas liquid separation systems
- Mercury removal units
- Type of dehydration processes: absorption and alternative operating conditions
- TEG equipment: gas scrubbers, glycol contactors, flash tank, filters, glycol cooler, regenerator and stripping gas
- Gas sweetening technologies
- Operation of conditioning systems
- Troubleshooting of equipment used in gas conditioning
- Basics on dew point depression units

Objectives

By the end of this training seminar, participants will learn to:

- Understand the normal operating conditions of the plant
- Have a good background of oil and gas processing and be able to understand the scope of LNC (NGL) gas processing
- Become familiar with the transfer operations in the gas field and be able to carry-out the measurement techniques
- Understand the conversion factors and be able to learn data analysis
- Acquire in-depth understanding of gas compression, natural gas, slug catcher and NGL recovery
- Define abnormal conditions such as high liquid level, heat loss, tanks getting dry, foams, plugged outlets
- Learn about instrumentation, measurement and control of natural gas and gas liquids in addition to gas facility maintenance
- Handle abnormal conditions such as loss of power, loss of control, loss of air, shortage of man power, foam and hydrate formation.
- Troubleshoot the problems
- Emphasize the importance of water content in the gas field operations and be able to review & improve gas treatment
- Know the procedure of condensate stabilization
- Apply troubleshooting and safety considerations

Training Methodology

This training seminar will utilize a variety of proven adult learning techniques to ensure maximum understanding, comprehension and retention of the information presented. The seminar is designed as a blended environment of presentation; workshops; group work; practical exercises; field application/analysis and several industry videos showing all processes; and general discussions.

Who Should Attend?

This training seminar is suitable to a wide range of professionals but will greatly benefit:

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

DAY 1
Introduction to Natural Gas Processing
- Introduction to natural gas processing
- Fundamentals and of natural gas engineering
- Physical properties of natural gas
- Natural gas production
- Impurities in the gas
- Contract terms
- Heating value/ BTU (British Thermal Unit) importance
- Plant normal and abnormal conditions
- Startup and initial operation
- Natural Gas Liquid (NCL), Gas-to-Liquid (GTL), Liquefied Petroleum Gas (LPG)

DAY 2
Gas-Liquid Separation Systems
- Gas-liquid separation system
- Separators (types of separators - separator sizing)
- Common variables such as pressure, temp., flow and level
- Instrumentation, control, and measurement of natural gas and gas liquids
- Control valves & actuators
- Pressure, temperature, and level controls
- Field application of instruments
- Structured approach to the process operation
- Contaminants removal
- Process plant machinery specific plant issues
- Management, planning and control
- Startup and shutdown planning & control

DAY 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
- Water dew point control
- Dehydration systems and methods

DAY 4
Dehydration of Natural Gas / NGL Recovery and Removal of Heavy Hydrocarbon
- Glycol dehydration unit
- Process description of the TEG (Triethylene Glycol) dehydration unit
- The factors affect the TEG dehydration unit performance
- Trouble shooting of the TEG dehydration unit
- The nature of process problems affecting performance
- Removal of heavy hydrocarbons (LTS & turbo expanders systems)
- Condensate stabilization - refrigeration system - cryogenics applications - turbo-expanders

DAY 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
- Effect of maintenance on operation
- Managing, environment, safety and quality concern
- Case studies
# Gas Conditioning & Processing

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<td>OG069</td>
<td>27 - 31 Aug 2017</td>
<td>Dubai - UAE</td>
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## REGISTRATION DETAILS

**LAST NAME:**

**FIRST NAME:**

**DESIGNATION:**

**COMPANY:**

**ADDRESS:**

**CITY:**

**COUNTRY:**

**TELEPHONE:**

**MOBILE:**

**FAX:**

**EMAIL:**

## AUTHORISATION DETAILS

**AUTHORISED BY:**

**DESIGNATION:**

**COMPANY:**

**ADDRESS:**

**CITY:**

**COUNTRY:**

**TELEPHONE:**

**MOBILE:**

**FAX:**

**EMAIL:**

## PAYMENT DETAILS

- Please invoice my company
- Cheque payable to GLOMACS
- Please invoice me

## CERTIFICATION

Successful participants will receive GLOMACS’ Certificate of Completion

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## TERMS AND CONDITIONS

- **Fees** – Each fee is inclusive of Documentation, Lunch and refreshments served during the entire seminar.
- **Mode of Payment** – The delegate has the option to pay the course fee directly or request to send an invoice to his/her company/sponsor. Credit card and cheque payments are both acceptable.
- **Cancellation / Substitution** – Request for seminar cancellation must be made in writing & received three (3) weeks prior to the seminar date. A US$ 250.00 processing fee will be charged per delegate for each cancellation. Thereafter, we regret that we are unable to refund any fees due, although in such cases we would be happy to welcome a colleague who would substitute for you.
- **Hotel Accommodation** – is not included in the course fee. A reduced corporate rate and a limited number of rooms may be available for attendees wishing to stay at the hotel venue. Requests for hotel reservations should be made at least three (3) weeks prior to the commencement of the seminar. All hotel accommodation is strictly subject to availability and terms and conditions imposed by the hotel will apply.
- **Attendance Certificate** – a certificate of attendance will only be awarded to those delegates who successfully completed/attended the entire seminar including the awarding of applicable Continuing Professional Education Units/Hours.
- **Force Majeure** – any circumstances beyond the control of the Company may necessitate postponement, change of seminar venue or substitution of assigned Instructor. The Company reserves the right to exercise this clause and implement such amendments.
- **Fair Access / Equal Opportunities** – In the provision of its services as a world-class Training Provider, the Company is committed to provide fair access / equal opportunities throughout the delivery of its courses and assessment leading to the completion of training seminars, or 3rd party qualifications/certifications.

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