Amine Gas Sweetening & Sulphur Recovery

Date		($)Fees	
25 February -29 February 2024	Istanbul	3500	Register Now

Why Choose this Training Course?

The removal of acidic components (primarily H2S and CO2) from hydrocarbon streams can be broadly categorized as those depending on chemical reaction, or adsorption.

Processes employing each of these techniques are described. The principle process stream is the removal of the acid gases by counter flowing contact with an amine solution, commonly known as Amine Gas Sweetening.

The acidic components removed are termed acid gas streams (containing H2S,) and may be flared, incinerated, or converted to elemental sulphur in a Sulphur Recovery Unit. Various Sulphur Recovery processes (primarily The Modified Claus Process) are discussed.

What are the Goals?

Participants attending this course will:

- Demonstrate an understanding of Amine sweetening and Sulphur Recovery technologies
- Grasp an explanation of the key features of gas treating
- Discuss the thermodynamics of gas processing
- Identify the main process steps
- Evaluate, monitor, and troubleshoot gas treating operations

Who is this Training Course for?

The course is specifically designed to be of substantial benefit to personnel within the Oil and Gas Industries such as:

- Technologists,
- Mechanical engineers
- Inspection engineers
- Maintenance or project engineers
- Operations personnel

It is designed for both technical and non-technical personnel as well as operational staff at professional level employed in refineries, petrochemical, and oil and gas process industries.

It will serve as an introduction to acid gas removal and sulphur recovery technology for those who are unfamiliar with the subject and will also assist those who need the ability to progress to a detailed knowledge of the gas processing technologies.

How will this Training Course be Presented?

Amine Gas Sweetening and Sulphur Recovery is a hands on, stimulating learning experience. The course will be highly interactive, with opportunities to advance your opinions and ideas. Participation is encouraged in a supportive environment.

To ensure the concepts introduced during the course are understood, they will be reinforced through a mix of learning methods, including lecture style presentation, open discussion, case studies, simulations and group work.

The Course Content

Day One: Gas Sweetening

- General Considerations and Safety
- Types of Contaminants
- Gas specifications
    - Heating Value
    - Sulphur Content
    - Water Content
- Commercial Gases
    - Ethane. Propane LPG

Day Two: Alkanolamine Processes

- Process Selection and Classification
- Chemistry of Amine Gas Sweetening
- Operating Problems
- Selective Sweetening Systems
- Process Flow and General Design Criteria / Guidelines
    - MEA
    - DEA
    - MDEA
    - DGA
    - DIPA
    - Formulated Solvents
    - Sterically Hindered Amines

Day Three: Amine System Design

- Design Procedures for Amine Systems:
    - amine absorber
    - amine circulation rates

  - flash drum
  - amine reboiler
  - amine stripper
  - overhead condenser and reflux accumulator
  - rich/lean amine exchanger
  - amine cooler
  - amine solution purification
  - materials of construction
- General Operating Problems in Amine Processes:
  - corrosion
  - solution degradation
  - foaming
  - amine reclaiming
  - filtration
  - foam inhibitors
  - corrosion inhibitors
- General Considerations for Amine Processes:
  - inlet scrubbing
  - amine losses
  - filtration
  - amine-amine heat exchanger
  - amine regeneration

Day Four: Sulphur Recovery

- Claus Process Considerations and Modifications
- Typical PFD – 3 Stage
- Process Considerations
- Mechanical Considerations
- Instrumentation
- Tail Gas Handling
  - Incineration
  - Clean-up
  - SO2 Recovery Process
  - H2S Recovery Process
  - Direct Oxidation Process
  - Liquid Redox

Day Five

- The EUROCLAUS Concept
- SCOT
- Claus Process Calculations and Exercises
- Sulfur Product Specifications
- Sulfur Storage and Handling
- Safety and Environmental Considerations
- Sulfur Recovery
- Troubleshooting: what can go wrong
- Course review and evaluation