NG Conditioning & Monitoring

Course Description:

Natural gas (also called fossil gas or simply gas) is a naturally occurring mixture of gaseous hydrocarbons consisting primarily of methane in addition to various smaller amounts of other higher alkanes. Low levels of trace gases like carbon dioxide, nitrogen, hydrogen sulfide, and helium are also usually present, propylene, butylene, isobutane and n-butane. natural gas is used for electricity generation, heating, and cooking and as a fuel for certain vehicles. It is important as a chemical feedstock in the manufacture of plastics and is necessary for a wide array of other chemical products, including fertilizers and dyes. The purpose of this course is to discuss NG components, Production, Processing and storage with full explanation of what a NGs production plant consists of.

Course Objective

By attending this course, you will

- Learn best practices how to operate a NG processing plant
- Natural gas various processing techniques
- Improving NG quality
- Get answers to your specific questions
- Problems and troubleshooting for NG plants
- Avoid operational risks in NG processing plants

Course Certificate

Certificate will be issued to all attendees completing minimum of 75% of the total tuition hours of the course.

Who should attend?

- Oil and gas plant operators
- LPG plant operators
- Plant and facilities engineers,
- DCS/SCADA operators
- Process/Process control engineers
- Other personnel wanting to gain more knowledge about oil and gas processing plants

Training Methodology

This is an interactive course. There will be open question and answer sessions, regular group exercises and activities, videos, case studies, and presentations on best practice. Participants will have the opportunity to share with the facilitator and other participants on what works well and not so well for them, as well as work on issues from their own organizations. The online course is conducted online using any online program

Course Outline

1. **Introduction for oil & gas production**
    - Hydrocarbons components
    - Well components
    - Flowline components
    - NG composition
    - Pigging process
2. **Separation techniques**
    - Definition
    - Variables affecting separation
    - Types of Separators (Techniques/ Commercial approach)
    - Separators Design and components
    - Comparison, Adv. Vs Disadv.
    - Operations problems and troubleshooting
3. **Gas Dehydration and sweetening**
    - Definition
    - Dehydration techniques
    - Glycol dehydration units (TEG)
    - Operations problems and troubleshooting
    - Gas sweetening and acid removal process
4. **Gas Compression and Metering**
    - Types of compressors
    - Reciprocating compressors
    - Gas metering
5. **Hydrocarbon Dew point optimization**
    - Definition
    - Hydrocarbon recovery
    - JT/Turbo expander units
    - Refrigeration packages
    - Gas sweetening and acid removal process
6. **Oil and gas process plant safety**
    - Safety measures and components
    - SIS design techniques
    - Cause and effect diagrams
    - PFD & P&ID samples
    - Discussion and questions