Duration

Three classroom days providing 2.4 CEU (Continuing Education Credits) or 24 PDH (Professional Development Hours)

Summary

This three-day course is designed to familiarize technical professionals with the design and operation of several common gas plant processing blocks. Day one will be spent on dehydration systems used in typical field gathering and plant facilities, including a review of options available. Day two will focus on mechanical propane refrigeration systems typically used in Hydrocarbon Dew Point and NGL Recovery systems, including a review of design and performance enhancements. Day three will focus on tower operations and troubleshooting used in absorption and fractionation services, with optimization and key performance indicators discussed for each tower in each application.

Who Should Attend

The course is aimed at engineers, technologists and operators involved in the operation and optimization of gas processing facilities

Participants will learn to:

1. Describe the design of a glycol dehydration unit.
2. Determine the water content of natural gas.
3. Review the operation and potential problems of a glycol dehydration unit.
4. Describe the types of gas processing pumps.
5. Briefly review desiccant dehydration systems.
6. Discuss the components of a refrigeration system.
7. Review the operating problems and possible solutions in a refrigeration system.
8. Describe the various liquids recovery options.
9. Review absorption and fractionation towers.
10. Review De-ethanizer and Stabilization tower operation and typical operating problems.
11. Discuss product specification and pricing.

Course Agenda

Day One

1. Water Content of Natural Gas
2. Hydrate Formation, Prevention and Handling
3. Options for Dehydration
4. Glycol Dehydrator Sizing
5. Troubleshooting and System Optimization
Day Two

6. Refrigeration Circuit Basic Design/Operation
7. Capacity Control
8. Power-Reducing Modifications
9. Troubleshooting H/C Dew Point Control Problems
10. Gas Expander - Propane Refrigerant Comparison

Day Three

11. Absorption and Fractionation Tower Design
12. Tower Internals
13. Capacity Control and Issues
14. Turn-Up and Turn-Down Problems

Instructor

Dale Kraus earned a Degree in Chemical Engineering from the University of Saskatchewan in 1981. He has held Facility Engineering and Operations Management experience with several major multinational oil companies for 20 years, and, most recently has been providing consulting services to the Oil & Gas Industry. He has a broad background in Upstream Facilities and Process Engineering, coupled with extensive Operational experience gained in the Field.

Course Dates

Please visit the course details webpage for currently scheduled course dates.

Available for In-House Group Delivery

This course is available for In-House Training and the content can be customized to suit the needs of your organization. For more information or to request a proposal, please email inhouserequests@peice.com or call 713-482-3858 (USA), 403-284-1250 (Canada).