N634: Acid Gas Compression and Injection

Tutor(s): Edward Wichert

1 Day	Competence Level: Basic Application
Classroom Course	

Summary

This one-day course provides a comprehensive overview of the design and operational aspects of acid gas compression and injection projects. The presentation includes a detailed discussion of the phase behavior of acid gas and outlines the methods for estimating the properties of acid gas for the design of the compression and injection facilities. It also addresses the methods for controlling corrosion and prevention of the formation of hydrates. Design considerations of compression and cooling equipment, injection line, well completion, and reservoir selection are also discussed. Technical and operations persons involved in the design or operation of acid gas injection projects would greatly benefit from this course. A comprehensive set of course notes is included.

Learning Outcomes

Participants will learn to:

1. Discuss acid gas extraction from sour gas.
2. Present options for disposal of acid gas.
3. Determine properties of acid gas.
4. Predict conditions for the formation of hydrates and methods of prevention.
5. Select method for dehydration of acid gas.
6. Predict the dewpoint pressure of acid gas.
7. Prevent corrosion in acid gas process equipment
8. Estimate required pressure for acid gas injection.
9. Determine number of compression stages.
10. Understand relationship among hydrate temperature, acid gas dewpoint temperature and water dewpoint temperature at the injection pressure.
11. Design considerations for after-cooler.
12. Design considerations for acid gas injection line and wellsite facilities.

Duration and Training Method

One classroom day providing .8 CEU (Continuing Education Credits) or 8 PDH (Professional Development Hours)

Who Should Attend

This course is intended for engineers and technologists involved in the specification and design of acid gas compression facilities, and for foremen and operators responsible for the daily operation of such facilities.

Course Content

Course Agenda

1. Brief review of sour gas sweetening
2. Brief review of sulfur recovery options
3. Properties of acid gas, vapor/liquid behavior
4. Control of corrosion and avoiding hydrate formation
5. Determining number of compression stages
6. Materials selection

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7. Cooler design considerations
8. Injection line design considerations
9. Operation of injection facilities, e.g., blowdown
10. Metering
11. Selection of injection zone