Basic Pipeline Hydraulics I - Operators

(2.5 days)

Day One

Quiz

Fluid Properties and Flow

1. Specific and API Gravity
2. Viscosity
3. Vapor Pressure (real and true v.p.)
4. Temperature
5. Fluid Types: Laminar, Turbulent, and Transition

Steady State Flow Analysis

1. Pressure Drop and Pressure Loss Formulas
   a. Discuss Formulas
   b. Pipe Diameter and Roughness
   c. Estimating Pressure Loss-Reynolds Number
   d. System Curves
   e. Turbulent and Transition Flow

Hydraulics Gradients

1. General Description
2. Stripping and Injecting
3. MAOP
4. Relief Systems
5. Surge Protection
6. Hydraulic Balance and Stations Required

Day Two

Hydraulic Problem Class Exercise

Pumps and Pump Operation

1. Pump Types / Characteristic
2. Pumps and MAOP
3. Controls for Pumps / Stations

Day Three

Valves

1. Types
2. Control Valves; Throttling
3. Proper Operation
4. Emergency and Safety Procedures

Class Exercise

Multiple Station Operation

Review and Quiz

Closing Exercises

By attending GCI's Pipeline Hydraulics I class, you'll discover more about:

- Fluid properties and flows
- Steady state flow analysis
- Hydraulic gradients
- Hydraulic problem-solving exercises
- Proper operation of valves

Cost: $900