



Buried Metallic Pipe Analysis and Integrity Evaluation

Potential PDH: 16

Description:

A two-day course that addresses the design and analysis of buried metallic pipe, their technical basis and practical application. We will develop the design loads: normal and transient pressure, temperature, soil and surface loads, flood loads, settlements, and seismic. We will perform design calculations using simplified formulas, and have an introduction to more advanced analysis methods. The course will then provide an example for evaluating the integrity and remaining life of corroded buried pipe.

Outline:

Part 1: Design Analysis

- Categories of buried pipes and pipelines
- Regulations, Codes and standards overview
- Technical references
- Loads applied to buried pipe
- Pressure design
- Soil and surface loads design
- Constrained thermal effects
- Flood and flotation
- Ground settlement
- Seismic wave passage and anchor motions

Part 2: Integrity Evaluation

- Run-or-repair decision process
- Damage mechanisms
- General metal loss evaluation
- Local thin area evaluation
- Pitting evaluation
- Cracking evaluation