Pipeline Stress Corrosion Cracking (SCC) Management

A Practical, Case Study-based Training Program
Led by:

Dr. Thomas Bubenik

15 Hours • 1.5 CEUs • 15 PDHs

About this MasterClass (MC141)

This two-day MasterClass provides an overview of high pH and near neutral pH stress corrosion cracking (SCC). Topics covered include history and characteristics of SCC, causative and non-causative factors related to SCC, coating effects, SCC direct assessment, susceptibility assessments/site selection, field inspection protocols, mitigation, and the CEPA guidelines. Also included are discussions on managing SCC, what to do when SCC is found on a system, and the role of risk in SCC management.

For more information and to register, visit

http://go.asme.org/mc141
The ASME Master Class Series focuses on applications and case studies of a particular topic. Each Master Class is led by an ASME Master, an expert in his professional discipline, who brings a wealth of knowledge and practical examples to the forum. Participants are expected to have prior knowledge of the topic area to gain the most from this interactive environment.

Sessions are focused on real world examples and case studies, with active class discussion and analysis.

About this MasterClass

This two-day MasterClass is intended for engineers interested in learning more about SCC, conducting SCC integrity assessments, and managing the results of such assessments. Prerequisites are 2 to 4 years of experience related to pipeline integrity management and/or involvement in SCC direct assessment programs. Some prior exposure to high pH or near neutral pH SCC is desired.

Students should be familiar with the Canadian Energy Pipeline Association (CEPA) Stress Corrosion Cracking, Recommended Practices, 2nd edition, as well as ASME B31.8S Managing System Integrity of Gas Pipelines, Non-mandatory Appendix A-3

The class provides an overview introduction to SCC and the role of risk in managing SCC. Topics to be discussed in detail include Pipeline Coatings, SCC Direct Assessment, Site Selection, Field Inspection Protocol and Mitigation Options. Case studies are discussed on Decision Making and How to Respond to Finding SCC on your Pipeline System.

Upon completion, attendees will be able to

- Identify the factors needed for SCC to occur on buried transmission pipelines
- Explain the life cycle of SCC initiation, growth, coalescence and (potential) failure
- Describe the role of cathodic protection and coatings in both high pH SCC and near neutral pH SCC
- Describe how toughness affects the defect tolerance of a pipeline
- Identify factors that affect SCC growth rates, coalescence and interaction
- Explain the basic elements of an SCC management plan
- Describe how SCC management decisions are made
- Initiate the process of developing a company-specific SCC management plan

About this ASME Master

Dr. Thomas Bubenik

has over 35 years of experience in onshore and offshore pipeline integrity and is internationally recognized for his expertise in ILI technology and pipeline degradation. A Senior Principal Engineer at DNV GL, he develops and applies state-of-the-art technologies to real world problems. His extensive experience provides him with an excellent understanding of the regulatory requirements, integrity threats, and the costs and consequences of managing pipeline integrity.

Prior to joining DNV GL, Dr. Bubenik was Program Manager for Battelle Pipeline Simulation Facility and was employed by Exxon Production Research (now ExxonMobil Upstream Development) as a Research Scientist. He regularly presents papers, workshops and formal training on various aspects of his expertise. He is also Vice-Chair of ASME Pipeline Systems Division Executive Committee.

Dr. Bubenik holds a BS and MS in Mechanical Engineering from Washington University and a PhD in Applied Mechanics from Northwestern University.

Who Should Attend

This MasterClass is intended for engineers interested in learning more about SCC in transmission pipelines. Attendees should have at least 2 to 4 years of experience related to pipeline integrity management and defect assessment technologies.
Pipeline SCC Management *(MC141)*

**AGENDA**

The contents are presented in the sessions tentatively organized as shown below. The two-day schedule allows for ample discussion and interaction with attendees. The instructors reserve the right to modify the content to address the audience’s needs and preferences.

**Day One: 8:00am – 5:00pm**

- Introduction to SCC
- Pipeline Coatings and SCC
- SCC Direct Assessment
- Dig Site Selection
- Field Inspection Protocol
- Recap Day 1

**Day Two: 8:00am – 5:00pm**

- Mitigation Options
- SCC Management Plan Components
- Decision Making and How to Respond to Finding SCC on Your Pipeline System
- The Role of Risk in Managing SCC
- Recap Day 1 and Day 2