

ASME CERTIFICATE COURSE

# ASME B31.8S Managing the System Integrity of Gas Pipelines (PD761)

CEUs: 1.5

PDHs: 15

The course explains how to apply the concepts and requirements of ASME B31.8S to develop and execute an Integrity Management Program (IMP) for natural gas transmission pipelines. It discusses the best practices for integrity threats and risk assessments, reviews integrity assessment techniques and responses, and the priority for repairs. It provides details and examples of alternative integrity assessment methods, as well as preventive and mitigation measures.

This course complements the ASME B31.8 Code, which covers the design, operation, maintenance, and repair of natural gas distribution and transmission pipelines. At the end of the course, you will be able to develop and execute an IMP for gas pipelines.

**Course Delivery:** Will be delivered digitally via "Microsoft Teams" Virtual Classroom by ASME's LMS integrated. It will be fully equipped with interactive in-camera video and voice active interaction between participants and the Instructor.

**Course Duration:** 4 x 4-hour Sessions distributed over two weeks.

**Course Dates and Timings (IST):** The course will be conducted in a 4-hourly session each day spread over two weeks. The dates and time are **30<sup>th</sup> - 31<sup>st</sup> July & 5<sup>th</sup> - 6<sup>th</sup> August 2020 from 3:30 PM-7:30 PM (IST).**

## YOU WILL LEARN TO

- Explain the guiding principles of pipeline safety
- Execute the components of the Integrity Management Process
- Apply the requirements of standards for integrity management
- Determine the High Consequence Areas (HCA) of a pipeline system
- Describe integrity threats as outlined in B31.8S, including time-dependent, time-independent, resident, and interactive.
- Describe integrity assessment methods in B31.8S, such as the types of inline inspection (ILI) tools and their functions
- Perform a risk assessment for an HCA
- Select and implement prevention and mitigation measures
- Implement Fitness-for-Service concepts in integrity management
- Execute the additional elements in an integrity management program, including performance, communications, change management and quality control

## WHO SHOULD ATTEND

- Engineers
- Code compliance personnel
- Operation and Maintenance Personnel
- Regulatory Personnel

## ASME CERTIFICATE

An ASME Gold Seal certificate shall be awarded to the participants upon their successful completion of the course.

Complimentary  
1-Year  
ASME Membership  
for Non-Member  
Participants

For more information about this and other ASME Training Courses for Engineers and Technical Professionals, contact :

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# Course Outline

## Session 1

- **Origins of integrity management planning**
  - Notable US pipeline incidents leading to IMP
  - India gas pipeline incidents discussion
- **Overview of the IMP process**
  - Guiding principles
  - B31.8S outline
- **Integrity threats**
  - Time-dependent
  - Resident / Stable
  - Operator error
  - Interacting

## Session 2

- **Risk assessment**
- **Data gathering and integration**
- **Integrity assessment, benefits, limitations**
  - In-line inspection
  - Hydrostatic testing
  - ECDA, ICDA, SCCDA, GWUT

## Session 3

- **Responses to integrity assessment**
  - Immediate response conditions
  - Timed response conditions
  - Monitored conditions

- **Reassessment intervals**
  - Corrosion
  - SCC
  - Fatigue
- **Prevention and mitigation measures**

## Session 4

- **Performance metrics**
  - Performance against the plan
  - Effectiveness of the plan
- **Other elements**
  - Communications
  - Management of Change
  - Quality control
- **Facility IMP**
- **Root cause failure analysis**
- **Other resources**
  - API 1160 Managing System Integrity of Hazardous Liquid Pipelines
  - API 1176 Management of Cracking in Pipelines
  - API 1173 Safety Management Systems
  - CEPA SCC RP and CEPA Report on CSCC

## INSTRUCTOR PROFILE

Michael Rosenfeld is an experienced consultant in pipeline fitness for service, pipeline integrity, pipeline design and construction, causes of pipeline failures, pipeline regulations and standards, and related matters. He has performed numerous pipeline failure investigations and root cause failure analyses; research funded by the pipeline industry on the effects of mechanical damage, fatigue, pipeline integrity threat interactions, and methods to determine the probable grade of undocumented pipe materials; engineering analyses of a broad range of design, operations, or integrity matters for numerous pipeline operators; and provided expert support in litigation.

Mr. Rosenfeld chairs the Subgroup on Design, Materials, and Construction of the ASME B31.8 Gas Transmission and Distribution Piping Committee and serves on other ASME piping standards development committees. Mr. Rosenfeld has authored or co-authored over 90 published articles or public presentations dating to 1988, is an ASME Fellow and is a Professional Engineer registered in the State of Ohio. He previously worked with Kiefner & Associates (27 years), Battelle (6 years), and Impell Corporation (4 years). He earned a Bachelor of Science in Engineering from the University of Michigan (1979) and a Master of Engineering from Carnegie-Mellon University (1981).

## ABOUT ASME

ASME helps the global engineering community develop solutions to real world challenges. Founded in 1880 as the American Society of Mechanical Engineers, ASME is an international not-for-profit professional organization that enables collaboration, knowledge sharing and skill development across all engineering disciplines, while promoting the vital role of the engineer in society. ASME codes and standards, publications, conferences, continuing education and professional development programs provide a foundation for advancing technical knowledge and a safer world.

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