

# € TRAINING

Advanced ASME Plant Inspector Level 1



16 - 27 September 2024  
London (UK)  
Landmark Office Space



# Advanced ASME Plant Inspector Level 1

REF: KJ1541 DATE: 16 - 27 September 2024 Venue: London (UK) - Landmark Office Space Fee: 9560 Euro

## Introduction:

This training program provides the fundamental principles of the inspection, assessment, and management of fixed pressure equipment. It's content is delivered in a systematic manner, from the inspection planning process to inspection practices and evaluation of the associated equipment. This intensive program covers the in-service inspection methodologies and requirements for piping, pressure vessels, and above ground storage tanks.

## Program Objectives:

At the end of this program the participants will be able to:

- Gain insight into background engineering knowledge, encompassing pressure equipment types and fundamental materials.
- Understand the multifaceted inspection role, elucidating the objectives inherent in inspection reports.
- Familiarize yourself with statutory requirements governing industrial inspection practices.
- Acquire knowledge of equipment failure modes, including principal stress analysis and crack propagation mechanisms.
- Explore damage mechanisms such as fatigue and creep, vital for comprehensive inspection understanding.
- Develop proficiency in detecting and evaluating damage, utilizing techniques like thickness measurement and assessing vessel peaking and distortion, culminating in the practical skill of crafting an assessed inspection plan.

## Targeted Audience:

- NDT Technicians/Inspectors.
- Inspection/Integrity/Project Engineers.
- Technical Assistants.
- Project/Inspection Coordinators.
- Plant Supervisors.

## Program Outlines:

Unit 1:

## Introduction:

- Program overview.
- Reasons for inspection.
- Mechanical Integrity failures in case studies.

## Unit 2:

### Risk-Based Inspection RBI:

- Introduction to RBI.
- Relevant Codes and Standards.
- RBI Methodology.
- RBI Assessments.
- IOWs and the MOC processes.

## Unit 3:

### Engineering Materials and Basic Design Principles:

- Materials and their properties.
- Types of stresses and loadings.

## Unit 4:

### In-service Piping Monitoring:

- Design of piping for pressure containment.
- Piping Classes per API 570.
- Common Damage Mechanisms.
- Principles of corrosion loops/circuits.
- Codes and Standards.

## Unit 5:

### In-service Pressure Vessel Monitoring:

- Design of Pressure Vessels pressure containment.
- Static Head principle.
- Vessel Components - Shell/Nozzles/Supports/Head.
- Common Damage Mechanisms relating to pressure vessels.
- Steps for Assessing localized and general wall loss to API 510.

## Unit 6:

### Useful Remaining Life Assessments:

- Corrosion rate calculations.
- Remaining life calculation.
- Safe MAWP calculation.
- Inspection periods.

## Unit 7:

### In-service Storage Tank Inspection:

- Design.
- Static Head principle.
- Tank Components - Shell/Floors/Roofs.
- Common Damage Mechanisms.
- Assessing wall loss to API 653.
- Determine the maximum fill height.

## Unit 8:

### Testing and Examination:

- Approaches for Pressure Testing.
- Approaches for Leak Testing.
- NDE.

## Unit 9:

### Inspection Plans:

- Purposes of an inspection plan.
- Content of plan.
- Writing the plan.

## Unit 10:

### Inspection Management and Compliance:

- Mastery of inspection management principles, encompassing planning, execution, and oversight for fixed pressure equipment.
- Adherence to regulatory compliance standards, ensuring alignment with industrial inspection practices and relevant codes.
- Effective communication and coordination among stakeholders to streamline inspection activities and ensure compliance.