

# € TRAINING

Advanced ASME Plant Inspector Level 1



20 - 31 October 2024  
Cairo (Egypt)



# Advanced ASME Plant Inspector Level 1

REF: KJ1541 DATE: 20 - 31 October 2024 Venue: Cairo (Egypt) - Fee: 7590 Euro

## Introduction:

This advanced training program is designed to deepen the expertise of plant inspectors by enhancing their understanding of ASME standards and inspection methodologies for pressure equipment and piping systems. It empowers them to take a leadership role in ensuring plant safety, integrity, and operational efficiency through advanced inspection techniques, risk management, and compliance with industry standards.

## Program Objectives:

By the end of this program, participants will be able to:

- Master advanced inspection techniques for pressure equipment and piping systems.
- Assess critical risks and ensure compliance with ASME standards.
- Develop advanced inspection plans and procedures.
- Lead inspection teams and implement continuous improvement strategies.
- Ensure high levels of safety, integrity, and operational performance.

## Target Audience:

- Senior Plant Inspectors.
- Maintenance Supervisors.
- Integrity Engineers.
- Inspection Coordinators.
- Quality Assurance and Safety Professionals.

## Program Outline:

Unit 1:

### Overview of ASME Standards and Regulations:

- Detailed review of ASME codes and standards relevant to plant inspection ASME Section V, VIII, IX.
- Understanding updates and recent changes in ASME standards.

- The role of ASME standards in risk management and regulatory compliance.
- Key considerations for plant inspectors in adhering to global inspection standards.

## Unit 2:

### Advanced Inspection Techniques for Pressure Vessels:

- Techniques for assessing pressure vessels using non-destructive testing NDT.
- Evaluation of material degradation, corrosion, and cracking in vessels.
- Ultrasonic and radiographic testing applications.
- Risk-based inspection RBI for extending equipment life.

## Unit 3:

### Advanced Piping Inspection and Monitoring:

- Best practices in piping inspection: methods and tools.
- Identifying and managing corrosion under insulation CUI.
- Techniques for inspecting pipelines in high-temperature environments.
- Predictive maintenance for piping systems using advanced data analytics.
- Documentation and reporting of piping inspection results.

## Unit 4:

### Risk-Based Inspection RBI and Assessment:

- Introduction to risk-based inspection methodologies.
- Assessing the probability and consequence of failure in plant equipment.
- Developing and implementing RBI programs.
- Advanced risk assessment techniques for critical plant components.

## Unit 5:

### Integrity Assessment and Remaining Life Evaluation:

- Evaluating the structural integrity of pressure equipment.

- Methods for calculating remaining useful life RUL of critical assets.
- Fatigue analysis and creep damage assessment in high-temperature systems.
- Implementing repair or replacement strategies based on integrity assessments.
- Documentation and record-keeping for life-cycle management.

## Unit 6:

### Fitness-for-Service FFS Assessments:

- Understanding the principles of fitness-for-service assessments ASME FFS-1.
- Conducting FFS evaluations on damaged or degraded equipment.
- Applying advanced FFS techniques to assess cracks, corrosion, and other defects.
- Repair recommendations based on FFS assessments.
- Ensuring compliance with ASME standards in fitness-for-service evaluations.

## Unit 7:

### Advanced Welding Inspection and Repair Methods:

- Overview of advanced welding techniques used in plant repairs.
- Inspection of welded joints using ASME Section IX standards.
- Evaluating weld quality and detecting defects in critical welds.
- Repair strategies for weld failures and damaged components.
- Monitoring and auditing welding activities in plant inspections.

## Unit 8:

### Quality Assurance and Control in Plant Inspections:

- Methods of Implementing quality control measures in plant inspection processes.
- Importance of Developing a quality assurance program for inspection teams.
- Auditing inspection activities for compliance with ASME standards.
- Continuous improvement through feedback and audit results.
- Ensuring traceability and documentation of inspection activities.

## Unit 9:

### Safety, Compliance, and Environmental Considerations:

- Ensuring compliance with safety and environmental regulations during inspections.
- Identifying hazards associated with inspection activities.
- Safety protocols for high-risk inspections confined spaces, high-pressure systems.
- Integrating environmental considerations into plant inspection procedures.
- Case study: Managing safety and compliance during a major inspection project.

## Unit 10:

### Leadership and Continuous Improvement in Inspection Processes:

- Leading inspection teams and managing resources effectively.
- Developing inspection plans that align with plant operational goals.
- Promoting a culture of continuous improvement in inspection activities.
- Staying current with industry trends and emerging technologies in plant inspection.
- Strategies for fostering collaboration between inspection teams and plant operations.