

PROCESS PLANT INSPECTION

“Ensuring Safety, Reliability, and Compliance Through Effective Plant Inspection”

Schedule

Venue (InHouse)	Fees
At Your Organization Premises	Ask For The Quotation

► **Available delivery methods:** In-House Training

Introduction

This course is designed to provide maintenance, inspection, and reliability professionals with a solid understanding of inspection techniques and integrity assurance for process plants. It covers international codes and standards (API, ASME), damage mechanisms, inspection planning, and risk-based inspection (RBI). Through real-world examples and practical case studies, participants will learn how to assess plant conditions, identify failures, and implement corrective measures to ensure long-term operational integrity and regulatory compliance.

Objectives

By the end of the course, participants will be able to:

- Understand the principles and scope of process plant inspection
- Identify critical components and common damage mechanisms
- Apply international standards (API 510/570/653, ASME) in inspection programs
- Use risk-based and condition-based inspection approaches
- Plan, conduct, and report inspections effectively
- Improve plant reliability through proactive inspection and monitoring

Why Attend

- Gain confidence in inspecting high-risk and aging assets
- Enhance your knowledge of failure modes and degradation mechanisms
- Minimize unplanned shutdowns and maintenance costs
- Ensure legal and safety compliance with inspection regulations
- Learn best practices from experienced inspectors and case studies

Target Audience

- Plant and equipment inspectors
- Reliability engineers and asset integrity professionals
- Maintenance managers and engineers
- Operations and HSE personnel
- QA/QC inspectors and pressure equipment engineers

Individual Benefits

- Develop skills to identify, assess, and report on defects in process equipment
- Strengthen your knowledge of inspection standards and practices
- Improve career prospects in inspection and integrity management
- Receive a certificate validating specialized training in plant inspection

Organizational Benefits

- Improve asset uptime and reliability through effective inspection planning
- Reduce failure risks and maintenance costs
- Enhance safety culture and regulatory compliance
- Build internal expertise in plant integrity and defect detection

Instructional Methodology

- Expert-led classroom instruction
- Real-world case studies and damage mechanism analysis
- Interactive group exercises and defect recognition challenges
- Visual inspection samples, photographs, and field report reviews
- Open discussion and Q&A sessions

Course Outline

DETAILED 5-DAY COURSE OUTLINE (Customizable) Training Hours: 07:30 AM – 03:30 PM Daily Format: 3–4 Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1 - Fundamentals of Inspection and Integrity

- Module 1 (07:30 – 09:30): Introduction to Process Plant Inspection & Integrity Programs
- Module 2 (09:45 – 11:15): Codes and Standards (API 510, 570, 653, ASME) Overview
- Module 3 (11:30 – 01:00): Understanding Equipment Types and Inspection Objectives

Day 2 - Degradation Mechanisms & Inspection Methods

- Module 4 (07:30 – 09:30): Corrosion, Cracking, Erosion & Fatigue Mechanisms
- Module 5 (09:45 – 11:15): Non-Destructive Testing (NDT) Methods and Applications
- Module 6 (11:30 – 01:00): Visual Inspection Techniques and Practical Examples

Day 3 - Inspection Planning and Execution

- Module 7 (07:30 – 09:30): Risk-Based Inspection (RBI) Principles and Practices
- Module 8 (09:45 – 11:15): Inspection Planning, Frequency & Data Collection
- Module 9 (11:30 – 01:00): Shutdown, Turnaround, and Online Inspection Strategies

Day 4 - Data Interpretation and Reporting

- Module 10 (07:30 – 09:30): Analyzing Inspection Data & Condition Assessment
- Module 11 (09:45 – 11:15): Developing Inspection Reports and Recommendations
- Module 12 (11:30 – 01:00): Defect Classification and Fitness-for-Service (FFS) Overview

Day 5 - Practical Application and Final Review

- Module 13 (07:30 – 09:30): Case Study Workshop: Inspection Scenarios and Failures
- Module 14 (09:45 – 11:15): Planning an Inspection Program for a Sample Plant
- Module 15 (11:30 – 01:00): Assessment, Review, Debrief, and Certificate Distribution

Certification

Participants will receive a Certificate of Completion in Process Plant Inspection and Asset Integrity Management.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
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In-House / Customized Training

Interested in running this course for your team?

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