

# € TRAINING

Process Equipment Integrity



1 - 5 December 2024  
Cairo (Egypt)



# Process Equipment Integrity

REF: E420 DATE: 1 - 5 December 2024 Venue: Cairo (Egypt) - Fee: 4465 Euro

## Introduction:

This training program offers comprehensive instruction on inspecting, evaluating, and repairing process plant equipment and connected piping systems. Theoretical learning, participants will learn inspection techniques, evaluation methods, and repair strategies essential for maintaining process plant equipment and piping systems.

## Program Objectives:

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

- Understand the damage and degradation mechanisms that affect process equipment and piping and progressively adversely affect their condition and fitness for continued service.
- Understand that effective inspection is the backbone of plant integrity and that it has a significant impact on EHS and the financial performance of the company.
- Increase the awareness of industry codes and best practices related to inspection, repair, and alteration of process equipment and piping including ASME BPVC and various API codes, standards, and recommended practices.
- Provide a sound and concise coverage of fitness-for-service assessment methodologies and API/ASME FFS standards to enable making run/repair/replace decisions about the damaged equipment/piping.
- Cover the main industry codes and practices for repairs and alterations to achieve business focused repairs and lower maintenance costs.
- Provide methodologies for performing fitness-for-service assessments of damaged equipment/piping to make run/repair/replace decisions.

## Targeted Audience:

- Process, Mechanical and Chemical Engineers.
- Operation and Maintenance Engineers.
- Project Engineers.
- Supervisors and Managers.
- Technical Personnel involved in the inspection.

## Program Outlines:

## Unit 1:

### Fundamentals of Process Plant Equipment Inspection:

- Introduction to process plant equipment inspection.
- Importance of equipment inspection for safety and reliability.
- Overview of process plant equipment types.
- Understanding inspection standards and regulations.
- Introduction to non-destructive testing NDT methods.
- Safety protocols and procedures for inspection.

## Unit 2:

### Inspection Techniques for Pressure Vessels:

- Overview of pressure vessel inspection requirements.
- Visual inspection techniques for pressure vessels.
- Ultrasonic testing UT methods for inspection.
- Radiographic testing RT methods for inspection.
- Magnetic particle testing MPT methods for inspection.
- Liquid penetrant testing LPT methods for inspection.

## Unit 3:

### Evaluation of Piping Systems

- Introduction to piping system evaluation.
- Piping inspection techniques and procedures.
- Visual inspection of piping systems.
- Ultrasonic testing UT methods for piping inspection.
- Radiographic testing RT methods for piping inspection.
- Magnetic particle testing MPT methods for piping inspection.

## Unit 4:

## Repair Strategies for Process Plant Equipment:

- Overview of repair strategies for process equipment.
- Importance of proactive maintenance.
- Repair and replacement considerations for damaged equipment.
- Welding techniques and procedures for repair.
- Non-destructive testing NDT methods for weld inspection.
- Corrosion prevention and mitigation strategies.

## Unit 5:

### Safety Practices in Equipment Inspection and Repair:

- Importance of safety in equipment inspection and repair.
- Regulatory requirements and industry standards for safety.
- Personal protective equipment PPE requirements.
- Hazard identification and risk assessment.
- Safety procedures for working at heights and confined spaces.
- Lockout/tagout LOTO procedures for equipment isolation.