



*Training Course:
Process Plant Equipment and Connected Piping*

*10 - 21 January 2027
Cairo (Egypt)*

Training Course: Process Plant Equipment and Connected Piping

Training Course code: EN6053 From: 10 - 21 January 2027 Venue: Cairo (Egypt) - Training Course Fees: 6950 € Euro

Introduction

Process plants rely on a wide range of equipment and interconnected piping systems to ensure safe, efficient, and continuous operation. Understanding the design, operation, and maintenance of these systems is essential for achieving reliability, process integrity, and compliance with industry standards.

This program, designed by Global Horizon Training Center, provides a comprehensive 10-day training that equips participants with the technical knowledge and practical skills required to manage process plant equipment and connected piping systems effectively.

Course Objectives

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

- Understand the functions and design of process plant equipment
- Identify different types of piping systems and components
- Apply design codes and standards ASME, API
- Analyze fluid flow and pressure behavior in piping systems
- Perform equipment and piping inspection and maintenance
- Identify and mitigate operational risks
- Ensure safety and regulatory compliance
- Optimize system performance and reliability

Target Audience

This program is designed for:

- Mechanical and Process Engineers
- Piping and Pipeline Engineers
- Maintenance and Reliability Engineers
- Oil & Gas and Industrial Professionals
- Inspection and Integrity Engineers
- Technical staff involved in plant operations

Outline

Day 1: Fundamentals of Process Plants

- Overview of process plant operations
- Types of process industries
- Key equipment and systems
- Process flow diagrams PFDs
- Safety considerations

Day 2: Process Plant Equipment Overview

- Pumps, compressors, and turbines
- Heat exchangers and boilers
- Reactors and separators
- Storage tanks and vessels
- Equipment selection criteria

Day 3: Piping Systems and Components

- Types of piping systems
- Pipes, fittings, valves, and supports
- Materials and specifications
- Piping layout and design
- Codes and standards ASME B31

Day 4: Fluid Flow and Pressure Behavior

- Fluid mechanics basics
- Flow regimes and pressure drop
- Flow measurement and control
- Pump and system curves
- Hydraulic calculations

Day 5: Equipment Design and Integration

- Equipment design considerations
- Integration with piping systems
- Stress analysis basics
- Thermal expansion and flexibility
- Layout optimization

Day 6: Installation and Commissioning

- Installation procedures and best practices
- Alignment and calibration
- Piping fabrication and welding
- Testing and commissioning
- Documentation and handover

Day 7: Inspection and Maintenance

- Inspection techniques and schedules
- Preventive and predictive maintenance

- Corrosion and erosion control
- NDT methods
- Maintenance planning

Day 8: Integrity Management and Risk Assessment

- Asset integrity management systems
- Risk-based inspection RBI
- Failure modes and analysis
- Safety and environmental risks
- Compliance with standards

Day 9: Troubleshooting and Optimization

- Diagnosing equipment and piping issues
- Root cause analysis
- Performance optimization
- Energy efficiency improvement
- System reliability enhancement

Day 10: Case Studies and Best Practices

- Real-world process plant scenarios
- Lessons learned and best practices
- Integration of systems and operations
- Continuous improvement strategies
- Final assessment and review

Registration form on the Training Course: Process Plant Equipment and Connected Piping

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Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

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Payment Method

- ☐ Please find enclosed a cheque made payable to Global Horizon
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