



*Training Course:
Process Hazard Analysis – OVERVIEW*

*1 - 5 December 2025
Madrid (Spain)
Pestana CR7 Gran Vía*

Training Course: Process Hazard Analysis □ OVERVIEW

Training Course code: MI236050 From: 1 - 5 December 2025 Venue: Madrid (Spain) - Pestana CR7 Gran Vía Training Course Fees: 6000 □ Euro

Introduction

Process Hazard Analysis PHA is a critical tool in identifying and managing risks in industrial operations, particularly in facilities that deal with hazardous materials, chemical processes, and complex equipment. This overview program, designed by Global Horizon Training Center, introduces participants to the principles, methodologies, and best practices of conducting PHAs to enhance plant safety and reliability.

Specifically tailored for Maintenance Department professionals, this training provides foundational and practical knowledge to help them actively participate in PHA studies, recognize process risks during maintenance activities, and contribute to hazard mitigation strategies. Understanding PHAs helps maintenance personnel work more safely and efficiently in high-risk environments while ensuring compliance with safety regulations and standards.

Objectives

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

- Understand the fundamentals and objectives of Process Hazard Analysis.
- Identify common hazards in process and maintenance environments.
- Participate effectively in PHA sessions using various techniques HAZOP, What-If, FMEA, etc..
- Recognize the role of maintenance in managing and mitigating process hazards.
- Interpret and apply recommendations from PHA studies.
- Understand regulatory frameworks related to PHA e.g., OSHA PSM, API, ISO standards.

Course Methodology

- Lectures and Discussions with industry-specific examples
- Workshops and Group Exercises using real-life maintenance-related scenarios
- Video Demonstrations of actual process hazard situations and analysis procedures
- Case Studies on past industrial incidents and lessons learned
- Templates and Checklists to support PHA documentation and analysis

Organizational Impact

This training will help organizations:

- Strengthen overall process safety culture and awareness in maintenance teams.
- Improve participation and quality of PHA sessions by integrating field knowledge.
- Reduce incidents and near misses caused by maintenance-related hazards.
- Ensure compliance with regulatory requirements related to hazard analysis.
- Enhance the preventive and predictive maintenance strategies with a risk-based mindset.

Target Audience

- Maintenance Engineers and Technicians
- Maintenance Planners and Supervisors
- Reliability Engineers
- Operations and Process Engineers who interact with maintenance
- HSE and Risk Management Personnel

Outlines

Day 1: Introduction to Process Hazard Analysis PHA

- What is PHA and Why It Matters?
- History of Process Safety and Major Industrial Incidents
- Regulatory Drivers: OSHA PSM, EPA RMP, API RP 750
- Key Elements of a PHA Program
- Hazard Identification vs Risk Assessment
- The Role of Maintenance in Process Safety

Day 2: PHA Techniques and Their Applications

- Overview of Common PHA Techniques:
 - HAZOP Hazard and Operability Study
 - What-If Analysis

- FMEA Failure Modes and Effects Analysis
- Checklist Analysis
- Selecting the Right PHA Method
- PHA Methodology Workshop: Maintenance-Focused Scenarios
- Team Roles and Responsibilities in PHA Studies

Day 3: Hazard Identification and Risk Evaluation

- Types of Hazards in Maintenance Work:
 - Mechanical Integrity Failures
 - Human Factors
 - Confined Spaces and Hot Work
- Risk Ranking and Risk Matrices
- Risk Reduction Hierarchy and ALARP Concept
- Hands-On Exercise: Identifying and Ranking Hazards in Maintenance Tasks

Day 4: Conducting and Documenting a PHA

- Preparing for a PHA Study
- Facilitating vs Participating in a PHA Session
- Documentation Standards and Reporting Requirements
- Integrating PHA Findings into Maintenance Plans
- Case Study: Maintenance-Related Incident Analysis and PHA Recommendations

Day 5: Applying PHA in Maintenance and Continuous Improvement

- Interfacing PHAs with Maintenance and Reliability Programs
- Using CMMS and Asset Management Systems to Implement PHA Actions
- Inspection and Maintenance of Safety-Critical Equipment
- PHA Revalidation and Continuous Improvement Practices
- Course Review and Action Planning

Registration form on the Training Course: Process Hazard Analysis □ OVERVIEW

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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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