Process Safety Management in High-Risk Industries Training Course

24 - 28 Aug 2025 Trabzon





Process Safety Management in High-Risk Industries Training Course

Ref.: 103600352_52380 Date: 24 - 28 Aug 2025 Location: Trabzon Fees: 6800 Euro

Course Overview:

This course is designed to equip professionals with the essential skills and knowledge needed to manage safety risks effectively in high-hazard environments. Rooted in global best practices and tailored for industries such as oil and gas, chemical production, and manufacturing, this program integrates process safety systems, hazard control strategies, and emergency planning frameworks.

Participants will explore key topics such as process safety management systems, contractor safety oversight, emergency response planning, static electricity hazard control, and the FARSI model for safety-critical equipment. With modules aligned to international safety standards, learners will develop expertise in process hazard identification HAZID, Bowtie analysis, permit-to-work systems, thermal runaway prevention, and ALARP-based decision-making.

Target Audience:

HSE Managers and Supervisors

Process Safety Engineers

Health and Safety Consultants

Maintenance Managers

Site Operation Managers

Safety Trainers and Advisors

Industrial Risk Specialists



Targeted Organizational Departments:

Health, Safety & Environment HSE Production and Operations Risk Management & Compliance Engineering & Maintenance Chemical Safety Units Process Safety Leadership Teams

Targeted Industries:

Oil and Gas Chemical Manufacturing Petrochemicals Pharmaceutical Production Industrial Processing Plants Food and Beverage Manufacturing Utilities and Power Generation

Course Outcomes:

By the end of this course, participants will be able to: Identify and manage key process safety hazards Implement and maintain an effective Process Safety Management System PSMS Apply ALARP principles to risk assessments and operational decisions Conduct Bowtie, HAZID, and HAZOP analyses to identify and mitigate risks Design emergency response plans aligned with regulatory frameworks Evaluate contractor safety performance and implement control measures Develop leading and lagging process safety performance indicators



Training Methodology:

This course uses a blended approach combining theory, practice, and interactive learning. Participants engage in case studies from real industrial incidents to simulate hazard identification HAZID, Bowtie analysis, and FMEA workshops. Techniques such as group work, simulations, and structured discussions reinforce the connection between classroom theory and field practice.

Course Toolbox:

Digital Study Guide for Process Safety Management Process Safety System Templates and Checklists HAZID and HAZOP Worksheets FARSI Model Performance Checklist Curated List of International Safety References and Resources Access to Online Case Studies and Practice Exercises

Course Agenda:

Day 1: Process Safety Foundations & Leadership

- Topic 1: Overview of Process Safety and Course Objectives
- Topic 2: Process vs. Personal Safety Key Distinctions
- Topic 3: Leadership and Safety Culture Development
- Topic 4: Organizational Learning and Benchmarking
- Topic 5: Change Management and Safety Communication
- Topic 6: Contractor Engagement and Worker Involvement
- Reflection & Review: Leadership Influence on Safety Outcomes



Day 2: Managing Process Safety Risk

Topic 1: Building and Implementing a PSMS
Topic 2: Risk Assessment Techniques and ALARP Application
Topic 3: Hazard Analysis Tools: HAZID, HAZOP, Bowtie, FMEA
Topic 4: Asset Integrity and Preventive Maintenance
Topic 5: Permit-to-Work and Safe Work Systems
Topic 6: Best Practices in Shift Handover and Communication
Reflection & Review: Case Review of Process Safety Events

Day 3: Hazard Control and Operational Safety

- Topic 1: Developing and Using Operating Procedures
- Topic 2: Safe Startup, Shutdown, and Alarm Management
- Topic 3: FARSI Model for Safety-Critical Equipment
- Topic 4: Utilities Management in High-Risk Facilities
- **Topic 5:** Electricity and Static Discharge Control
- Topic 6: Contractor Safety Management and Evaluation
- Reflection & Review: Workshop on Operational Safety Gaps

Day 4: Chemical Hazards, Storage, and Compliance

- Topic 1: Hazardous Material Properties and Behaviors
- Topic 2: Thermal Runaway: Causes and Controls
- Topic 3: Bulk Storage Tank Safety and Bunding Standards
- Topic 4: Fire Protection for Chemical Storage Sites
- Topic 5: Regulatory Frameworks e.g., COMAH Equivalent Standards
- Topic 6: Safe Warehousing Practices and Segregation
- Reflection & Review: Scenario-Based Chemical Hazard Assessment



Day 5: Fire, Explosion Risk & Emergency Preparedness

- Topic 1: Fire Dynamics and Explosion Types
- **Topic 2:** Fire Detection and Protection Systems
- Topic 3: Dust Explosion Prevention and Area Zoning
- **Topic 4:** Emergency Planning and Response Scenarios
- Topic 5: Public Safety Communication and Evacuation Drills
- **Topic 6:** Final Case Study + Exam Simulation if applicable
- Reflection & Review: Participant Feedback and Closing Summary

FAQ

Do participants need any prior qualifications before attending?

No formal prerequisites are required. However, a basic understanding of occupational health and safety principles is recommended.

How long is the course, and what is the daily schedule?

The course spans 5 days with daily sessions lasting 4–5 hours, including breaks and interactive segments. Total contact hours: 20–25.

What is the FARSI model and how is it applied?

The FARSI model Functionality, Availability, Reliability, Survivability, Interdependency is used to assess safety-critical systems and ensure equipment integrity in high-risk scenarios.

What Makes This Course Unique?

This training program goes beyond standard theory by offering practical, results-driven learning tailored to high-hazard industries. Participants engage in hands-on workshops and scenario-based exercises HAZOP, Bowtie, FMEA, simulating the decision-making pressures of real-world process incidents. The program is aligned with international safety frameworks and customized for applicability across various sectors — ensuring each learner leaves with actionable tools and a deeper operational safety mindset.



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Agile Leaders is a renowned training center with a team of experienced experts in vocational training and development. With 20 years of industry experience, we are committed to helping executives and managers replace traditional practices with more effective and agile approaches.

OUR VISION

We aspire to be the top choice training provider for organizations seeking to embrace agile business practices. As we progress towards our vision, our focus becomes increasingly customer-centric and agile.

OUR MISSION

We are dedicated to developing valueadding, customer-centric agile training courses that deliver a clear return on investment. Guided by our core agile values, we ensure our training is actionable and impactful.

WHAT DO WE OFFER

At Agile Leaders, we offer agile, bite-sized training courses that provide a real-life return on investment. Our courses focus on enhancing knowledge, improving skills, and changing attitudes. We achieve this through engaging and interactive training techniques, including Q&As, live discussions, games, and puzzles.

