Process Safety Management in High-Risk Industries Training Course

09 - 13 May 2027
Manama

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Process Safety Management in High-Risk Industries Training Course

Ref.: 103600352_48997 **Date:** 09 - 13 May 2027 **Location:** Manama **Fees:** 4700 **Euro**

Course Overview:

The course is designed to equip professionals with the essential skills and knowledge required to pass the NEBOSH Process Safety Management PSM exam and manage safety risks effectively in high-hazard environments. Drawing directly from the official NEBOSH HSE Certificate syllabus and structured to address real-world challenges across oil and gas, chemical, and manufacturing industries, this course integrates intensive exam preparation strategies, risk control methods, and applied safety systems.

Participants will delve into key topics such as process safety management systems, contractor safety management, emergency response planning, static electricity hazard control, and the FARSI model for safety-critical equipment. With modules rooted in UK and international safety regulations, learners will gain a robust understanding of process hazard identification HAZID, Bowtie analysis, permit-to-work systems, thermal runaway prevention, and ALARP principles.

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

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Targeted Industries:

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

Course Offerings:

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

- Interpret and apply the NEBOSH PSM syllabus to real industry scenarios
- Identify and control process safety hazards
- Implement process safety management systems effectively
- Apply ALARP principles to reduce risk to acceptable levels
- Analyse shift handovers, permit-to-work systems, and contractor safety plans
- Develop performance indicators leading and lagging for process safety
- Design emergency response plans aligned with COMAH standards

Training Methodology:

This course utilises a dynamic mix of practical, interactive, and theoretical learning strategies designed for adult professionals. Participants will engage in hands-on case studies drawn from real process industry incidents to simulate hazard identification HAZID, Bowtie analysis, and FMEA exercises. Daily group work, role-play simulations, and instructor-led discussions on fire protection systems, emergency planning, and static electricity hazards help reinforce theoretical content with real-world relevance.

Course Toolbox:

- NEBOSH PSM Study Guide digital
- Process Safety Management Templates
- HAZID and HAZOP Worksheets
- FARSI Performance Standards Checklist
- Recommended Reading List from NEBOSH and HSE
- Online Case Studies and Reference Links

Course Agenda:

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Day 1: Process Safety Foundations & Leadership

- **Topic 1:** Introduction to NEBOSH Process Safety Management and syllabus overview
- **Topic 2:** Understanding the difference between process safety and personal safety
- **Topic 3:** Leadership responsibilities and the development of safety culture
- **Topic 4:** Organisational learning from incidents, benchmarking, and knowledge management
- **Topic 5:** Managing organisational change and its implications on safety
- **Topic 6:** Worker consultation and contractor engagement principles
- **Reflection & Review:** Discussion on leadership-driven safety improvements and lessons learned

Day 2: Managing Process Safety Risk

- **Topic 1:** Establishing and implementing a Process Safety Management System PSMS
- **Topic 2:** Risk assessment techniques and the ALARP principle in practice
- **Topic 3:** Hazard identification and risk analysis tools: HAZID, HAZOP, Bowtie, FMEA
- **Topic 4:** Asset integrity management and preventive maintenance strategies
- **Topic 5:** Safe systems of work and permit-to-work procedures
- **Topic 6:** Best practices in shift handovers and maintaining operational continuity
- **Reflection & Review:** Real-world case review of process risk mitigation techniques

Day 3: Hazard Control and Operational Safety

- **Topic 1:** Writing and maintaining effective operating procedures
- **Topic 2:** Safe plant start-up, shutdown, and alarm system protocols
- **Topic 3:** Safety critical equipment performance and the FARSI model
- **Topic 4:** Utilities management: steam, water, and inert gases in process industries
- **Topic 5:** Electricity and static electricity hazard control
- **Topic 6:** Evaluating and managing contractor safety responsibilities
- **Reflection & Review:** Group workshop on operating hazards and safety interventions

Day 4: Chemical Hazards, Bulk Storage, and Control Measures

- **Topic 1:** Physical and chemical properties of dangerous substances
- **Topic 2:** Thermal runaway reactions: causes, consequences, and containment strategies
- **Topic 3:** Safe practices for bulk storage tanks and bunding systems
- **Topic 4:** Siting and fire protection for storage facilities
- **Topic 5:** COMAH regulations and compliance practices
- **Topic 6:** Warehouse safety: segregation, ignition control, and weather protection
- **Reflection & Review:** Application of chemical hazard control through simulated scenarios

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Day 5: Fire and Explosion Risk, Emergency Response, and Exam Prep

- **Topic 1:** Fire triangle, ignition sources, and explosion types in process industries
- **Topic 2:** Fire detection systems and passive versus active protection methods
- **Topic 3:** Dust explosion prevention, suppression, and zoning regulations
- **Topic 4:** Emergency planning: roles, resources, and regulatory alignment
- **Topic 5:** Public communication, evacuation, and table-top response drills
- **Topic 6:** NEBOSH PSM mock exam walkthrough and key exam-taking strategies
- **Reflection & Review:** Final summary, Q&A, and participant feedback

FAQ:

What specific qualifications or prerequisites are needed for participants before enrolling in the course?

While there are no formal prerequisites, it is recommended that learners have a foundational understanding of occupational safety and health. Prior NEBOSH General Certificate is a plus but not mandatory.

How long is each day's session, and is there a total number of hours required for the entire course?

Each day's session is generally structured to last around 4-5 hours, with breaks and interactive activities included. The total course duration spans five days, approximately 20-25 hours of instruction.

What is the FARSI model and how is it applied in safety-critical systems?

The FARSI model Functionality, Availability, Reliability, Survivability, Interdependency helps evaluate and maintain the integrity of safety-critical systems and equipment, particularly in preventing catastrophic process failures.

How This Course is Different from Other NEBOSH PSM Exam Prep Courses:

This course stands apart by delivering a high-intensity, results-oriented learning journey that not only prepares candidates for the NEBOSH Process Safety Management exam but also strengthens their ability to manage real-world safety risks across hazardous industries. Unlike typical PSM courses, this program offers deeper insights into process hazard identification, fire and explosion risk mitigation, and safety case development aligned with COMAH requirements. The use of scenario-based workshops HAZOP, Bowtie, FMEA and hands-on exercises allows learners to practice complex decision-making under realistic constraints.

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