Process Safety Management PSM Elements and Implementation Training Course

OGT-1099 · 5 days · 15 CPD hours · English

OVERVIEW

Process Safety Management (PSM) is a systematic approach to identifying, understanding and controlling hazards associated with industrial processes that involve hazardous chemicals, flammable materials, high pressures, high temperatures and other potentially dangerous operating conditions. In oil and gas facilities, effective process safety management is essential for preventing major accidents, protecting employees, safeguarding assets and maintaining operational reliability. Organisations need well-structured PSM systems that integrate technical knowledge, operational discipline, management accountability and continuous improvement to manage complex industrial risks effectively.

The **Process Safety Management PSM Elements and Implementation Training Course** offered by Oil & Gas Training Institute is designed to provide participants with a comprehensive understanding of PSM principles, regulatory expectations, implementation strategies and practical methods for strengthening process safety systems. The programme explores the interconnected elements of process safety management, including process safety information, process hazard analysis, operating procedures, employee participation, contractor management, management of change, mechanical integrity, incident investigation, emergency planning and compliance auditing.

Within the **Process Safety Management for Oil & Gas** category, this course emphasises the practical application of OSHA PSM principles, risk assessment methodologies, safety-critical equipment management and organisational processes that support safe facility operations. Participants will examine how process hazards are identified, how preventive and protective safeguards are maintained, how changes are assessed before implementation and how process safety findings are translated into corrective actions.

The course also addresses the importance of developing a strong safety culture in which employees, supervisors, engineers and managers actively contribute to process safety performance. Through case studies, practical exercises, scenario-based discussions and implementation workshops, participants will learn how to establish, evaluate and improve PSM programmes across oil and gas production facilities, refineries, petrochemical plants, processing installations and other high-risk industrial environments.

This professional training programme by Oil & Gas Training Institute equips participants with practical knowledge and structured approaches to implementing process safety management systems, improving regulatory compliance, strengthening operational controls and supporting long-term industrial safety and reliability.

OBJECTIVES

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

- Explain the principles, purpose, scope and fundamental requirements of process safety management in oil and gas operations.
- Identify the key elements of OSHA PSM and evaluate their relevance to process facility operations and organisational safety systems.
- Interpret process safety information, including chemical hazards, process technology documentation and equipment design information.
- Apply process hazard analysis techniques to identify process deviations, assess risks and evaluate safety safeguards.
- Develop and evaluate management of change procedures for equipment, process technology, operating conditions and organisational changes.
- Assess mechanical integrity programmes involving inspection, testing, preventive maintenance and reliability management of safety-critical equipment.
- Analyse incident investigation findings, identify root causes and develop appropriate corrective and preventive actions.
- Evaluate contractor safety, employee participation, training, operating procedures and emergency response arrangements within a PSM framework.
- Conduct structured PSM audits, identify programme gaps and prioritise corrective actions based on risk and compliance requirements.
- Develop practical strategies for implementing, monitoring and continuously improving process safety management programmes.

TRAINING METHODOLOGY

The Process Safety Management PSM Elements and Implementation Training Course combines structured technical instruction with practical exercises, industry case studies and collaborative learning to develop the knowledge and skills required for effective PSM implementation.

The training methodology includes:

- **Interactive Presentations:** Instructor-led sessions covering PSM principles, regulatory frameworks, OSHA PSM requirements, the interconnected PSM elements and implementation approaches.

- **Process Safety Case Studies:** Analysis of real-world industrial accident scenarios involving hazardous releases, fires, explosions, equipment failures, procedural weaknesses and management system deficiencies.
- **Process Hazard Analysis Workshops:** Practical exercises using HAZOP, What-If analysis, risk assessment and safeguard evaluation techniques to examine process hazards and operational deviations.
- **Management of Change Exercises:** Scenario-based activities to review proposed process modifications, assess associated risks, identify approval requirements and establish implementation controls.
- **Mechanical Integrity Activities:** Discussions and exercises covering inspection planning, equipment condition assessment, maintenance controls, testing requirements and reliability considerations for safety-critical assets.
- **Incident Investigation Simulations:** Practical investigation exercises involving incident evidence review, causal analysis, barrier failure identification and corrective action development.
- **Group Discussions and Collaborative Learning:** Participants share industry experiences, discuss implementation challenges and explore solutions to common process safety management weaknesses.
- **PSM Implementation Workshop:** A structured exercise in which participants develop a practical improvement plan covering programme responsibilities, implementation priorities, documentation, audit findings and performance monitoring.

The course methodology encourages participants to connect technical process safety requirements with actual workplace responsibilities, enabling them to apply the knowledge gained to their own facilities, projects and organisational systems.

ORGANISATIONAL IMPACT

Implementing effective process safety management systems can significantly strengthen organisational performance, operational reliability and risk management capabilities across oil and gas facilities. This training course supports organisations in developing a systematic approach to process safety risks and improving the consistency of their safety-related processes.

- **Improved Process Safety Performance:** Strengthens organisational capabilities to identify process hazards, evaluate risks and establish effective preventive and protective controls against major industrial incidents.
- **Enhanced Regulatory Compliance:** Supports organisations in understanding and managing relevant OSHA PSM requirements, internal standards, regulatory expectations and process safety documentation.
- **Reduced Operational Risk:** Improves the effectiveness of process hazard analysis, management of change, mechanical integrity and incident investigation activities.

- **Greater Asset Reliability:** Promotes structured inspection, maintenance, testing and equipment condition management practices for critical process equipment and protective systems.
- **Better Decision-Making:** Enables management, engineers and supervisors to make informed decisions regarding process modifications, risk priorities, maintenance activities and operational controls.
- **Stronger Safety Culture:** Encourages employee involvement, leadership accountability, communication, reporting and shared responsibility for process safety.
- **Improved Incident Prevention:** Helps organisations identify weaknesses in operating procedures, equipment integrity, safeguards and management systems before they contribute to major incidents.
- **More Effective Auditing and Corrective Actions:** Strengthens PSM audit processes, deficiency identification, action tracking and continuous improvement.
- **Enhanced Contractor Management:** Improves the integration of contractor activities, safety expectations, communication and operational coordination within facility safety systems.
- **Sustainable Operational Improvement:** Supports organisations in establishing consistent PSM practices that contribute to operational stability, risk reduction, business continuity and long-term performance.

PERSONAL IMPACT

Participants attending this course will develop practical technical knowledge and professional competencies that support their responsibilities in process safety, operations, engineering, maintenance, risk management and industrial leadership.

- **Advanced Process Safety Knowledge:** Develop a clearer understanding of the principles, requirements and practical implementation of process safety management systems in oil and gas environments.
- **Improved Risk Assessment Skills:** Enhance the ability to identify process hazards, analyse operational deviations, evaluate safeguards and contribute to process hazard analysis activities.
- **Greater Management of Change Competence:** Learn how to assess proposed process modifications and ensure appropriate risk evaluation, documentation, approval and implementation controls.
- **Enhanced Technical Understanding:** Strengthen knowledge of mechanical integrity, safety-critical equipment, inspection strategies, testing, maintenance and reliability-related process safety requirements.

- **Better Incident Investigation Capabilities:** Develop skills in identifying causal factors, analysing barrier failures, evaluating incident evidence and recommending effective corrective actions.
- **Improved Compliance Awareness:** Gain familiarity with OSHA PSM requirements, process safety documentation, audit practices and organisational responsibilities.
- **Stronger Professional Confidence:** Improve confidence in participating in process safety reviews, operational discussions, audit activities, safety meetings and implementation initiatives.
- **Enhanced Leadership and Communication:** Develop the ability to communicate process safety risks, influence operational decisions, coordinate multidisciplinary teams and support a proactive safety culture.
- **Practical Workplace Application:** Gain structured approaches and practical tools that can be applied to facility operations, maintenance planning, process reviews, risk management and safety improvement activities.
- **Career Development:** Strengthen professional capabilities relevant to process safety engineering, HSE management, operational leadership, industrial risk management and reliability-related roles.

WHO SHOULD ATTEND

This course is designed for professionals responsible for process safety, operational risk, plant management, engineering, maintenance, compliance and safety improvement in oil and gas and other process industries.

- **Process Safety Engineers:** Professionals responsible for developing, implementing, reviewing and maintaining process safety management systems and risk control strategies.
- **HSE and Safety Managers:** Managers responsible for safety programmes, regulatory compliance, process hazard management, incident prevention and organisational safety performance.
- **Plant and Facility Managers:** Professionals overseeing facility operations, process safety performance, operational reliability, safety compliance and management responsibilities.
- **Operations Managers and Supervisors:** Personnel responsible for safe operating practices, process controls, operational procedures, employee supervision and facility performance.
- **Process and Chemical Engineers:** Engineers involved in process design, operational optimisation, process hazard analysis, technical documentation and process modifications.
- **Maintenance and Reliability Engineers:** Professionals managing inspection programmes, mechanical integrity, preventive maintenance, equipment reliability and safety-critical assets.

- **Instrumentation and Control Engineers:** Specialists responsible for control systems, alarms, instrumentation, safety instrumented systems and protective equipment within process facilities.
- **Risk Assessment and Compliance Professionals:** Specialists conducting risk assessments, safety reviews, compliance evaluations, audits and corrective action management.
- **Project Engineers and Engineering Managers:** Professionals involved in plant modifications, project development, commissioning, design reviews and pre-startup safety activities.
- **Contractor and Construction Managers:** Managers coordinating contractor activities, construction work, facility modifications, operational interfaces and contractor safety requirements.
- **Incident Investigation Professionals:** Personnel responsible for investigating industrial incidents, analysing root causes, evaluating process safety failures and developing preventive actions.
- **Technical Consultants and Auditors:** Consultants, independent auditors and technical specialists supporting PSM implementation, programme evaluation, compliance and operational improvement.

The course is also suitable for professionals preparing to assume process safety responsibilities or seeking to strengthen their understanding of process safety management principles and implementation practices.

COURSE OUTLINE

Fundamentals of Process Safety Management and Regulatory Frameworks

Process Hazard Analysis and Risk Assessment Techniques

Management of Change, Operating Procedures and Mechanical Integrity

Incident Investigation, Contractor Management and Emergency Preparedness

PSM Auditing, Implementation Strategies and Continuous Improvement

SCHEDULED DATES

Dates	Venue	Format	Fee
25 - 29 Jan 2027	Abu Dhabi, United Arab Emirates	In person	On request
25 - 29 Jan 2027	Abuja, Nigeria	In person	On request

Dates	Venue	Format	Fee
25 - 29 Jan 2027	Accra, Ghana	In person	On request
25 - 29 Jan 2027	Addis Ababa, Ethiopia	In person	On request
25 - 29 Jan 2027	Al Ain, United Arab Emirates	In person	On request
25 - 29 Jan 2027	Al Khobar, Saudi Arabia	In person	On request
25 - 29 Jan 2027	Alberta, Canada	In person	On request
25 - 29 Jan 2027	AlUla, Saudi Arabia	In person	On request
25 - 29 Jan 2027	Amman, Jordan	In person	On request
25 - 29 Jan 2027	Amsterdam, The Netherlands	In person	On request
25 - 29 Jan 2027	Athens, Greece	In person	On request
25 - 29 Jan 2027	Baku, Azerbaijan	In person	On request
25 - 29 Jan 2027	Barcelona, Spain	In person	On request
25 - 29 Jan 2027	Berlin, Germany	In person	On request
25 - 29 Jan 2027	Boston, USA	In person	On request
25 - 29 Jan 2027	Brussels, Belgium	In person	On request
25 - 29 Jan 2027	Budapest, Hungary	In person	On request
25 - 29 Jan 2027	Cairo, Egypt	In person	On request
25 - 29 Jan 2027	Cape Town, South Africa	In person	On request
25 - 29 Jan 2027	Casablanca, Morocco	In person	On request
25 - 29 Jan 2027	Dammam, Saudi Arabia	In person	On request
25 - 29 Jan 2027	Dhahran, Saudi Arabia	In person	On request
25 - 29 Jan 2027	Doha, Qatar	In person	On request
25 - 29 Jan 2027	Dubai, United Arab Emirates	In person	On request
25 - 29 Jan 2027	Edinburgh, United Kingdom	In person	On request
25 - 29 Jan 2027	Edmonton, Canada	In person	On request
25 - 29 Jan 2027	Frankfurt, Germany	In person	On request
25 - 29 Jan 2027	Geneva, Switzerland	In person	On request

Dates	Venue	Format	Fee
25 - 29 Jan 2027	Houston, USA	In person	On request
25 - 29 Jan 2027	Istanbul, Turkey	In person	On request
25 - 29 Jan 2027	Jakarta, Indonesia	In person	On request
25 - 29 Jan 2027	Jeddah, Saudi Arabia	In person	On request
25 - 29 Jan 2027	Jubail, Saudi Arabia	In person	On request
25 - 29 Jan 2027	Khamis Mushait, Saudi Arabia	In person	On request
25 - 29 Jan 2027	Kigali, Rwanda	In person	On request
25 - 29 Jan 2027	Kuala Lumpur, Malaysia	In person	On request
25 - 29 Jan 2027	Lisbon, Portugal	In person	On request
25 - 29 Jan 2027	Liverpool, United Kingdom	In person	On request
25 - 29 Jan 2027	London, United Kingdom	In person	On request
25 - 29 Jan 2027	Los Angeles, USA	In person	On request
25 - 29 Jan 2027	Luanda, Angola	In person	On request
25 - 29 Jan 2027	Madrid, Spain	In person	On request
25 - 29 Jan 2027	Manama, Bahrain	In person	On request
25 - 29 Jan 2027	Marbella, Spain	In person	On request
25 - 29 Jan 2027	Marrakech, Morocco	In person	On request
25 - 29 Jan 2027	Miami, USA	In person	On request
25 - 29 Jan 2027	Milan, Italy	In person	On request
25 - 29 Jan 2027	Munich, Germany	In person	On request
25 - 29 Jan 2027	Muscat, Oman	In person	On request
25 - 29 Jan 2027	Nairobi, Kenya	In person	On request
25 - 29 Jan 2027	New York, USA	In person	On request
25 - 29 Jan 2027	Nice, France	In person	On request
25 - 29 Jan 2027	Oslo, Norway	In person	On request
25 - 29 Jan 2027	Paris, France	In person	On request

Dates	Venue	Format	Fee
25 - 29 Jan 2027	Port Louis, Mauritius	In person	On request
25 - 29 Jan 2027	Prague, Czech Republic	In person	On request
25 - 29 Jan 2027	Pretoria, South Africa	In person	On request
25 - 29 Jan 2027	Riyadh, Saudi Arabia	In person	On request
25 - 29 Jan 2027	Rome, Italy	In person	On request
25 - 29 Jan 2027	Sarajevo, Bosnia and Herzegovina	In person	On request
25 - 29 Jan 2027	Sharm El Sheikh, Egypt	In person	On request
25 - 29 Jan 2027	Singapore, Singapore	In person	On request
25 - 29 Jan 2027	Stockholm, Sweden	In person	On request
25 - 29 Jan 2027	Tokyo, Japan	In person	On request
25 - 29 Jan 2027	Toronto, Canada	In person	On request
25 - 29 Jan 2027	Tromso, Norway	In person	On request
25 - 29 Jan 2027	Vienna, Austria	In person	On request
25 - 29 Jan 2027	Zagreb, Croatia	In person	On request
25 - 29 Jan 2027	Zurich, Switzerland	In person	On request
25 - 29 Jan 2027	Online, Virtual	Online	On request

CERTIFICATE