

Course No. 1839

Comprehensive Program in Health, Safety & Environment (HSE) in Oil & Gas Training Course

**DOWNSTREAM OPERATIONS, REFINING, PETROCHEMICALS &
INDUSTRIAL OPERATIONS
OIL & GAS**

DURATION

5 Days

DELIVERY

Classroom



Course Overview

The Comprehensive Program in Health, Safety & Environment (HSE) in Oil & Gas is an advanced professional training program designed to provide participants with an integrated understanding of HSE management across the full oil and gas value chain. The program addresses the technical, operational, managerial, and organizational dimensions required to protect people, assets, the environment, and business continuity.

Participants will explore the principles of occupational health and safety, process safety, environmental management, risk assessment, hazard identification, emergency preparedness, incident prevention, and regulatory compliance. The program emphasizes practical application and provides a structured approach for identifying hazards, evaluating risks, implementing effective controls, and continuously improving HSE performance.

The program covers critical oil and gas activities including exploration, drilling, production, processing, refining, storage, transportation, pipeline operations, maintenance, and shutdown activities. Particular attention is given to high-risk operations such as confined space entry, hot work, lifting, work at height, hazardous energy isolation, chemical handling, simultaneous operations, and contractor activities.

A strong focus is also placed on HSE leadership, safety culture, process safety management, environmental protection, emergency and crisis management, incident investigation, performance measurement, auditing, and continuous improvement. Through practical exercises, case studies, and integrated scenarios, participants will develop the capability to translate HSE requirements into effective operational systems and measurable performance improvements.

Objectives

- By the end of the program, participants will be able to:
- Analyze the major health, safety, process, and environmental risks across oil and gas operations.
- Apply systematic hazard identification and risk assessment methodologies.
- Develop effective HSE controls using the hierarchy of controls.
- Evaluate occupational health risks and workplace exposure hazards.
- Apply process safety principles to prevent major accident events.

- Manage high-risk activities through effective work-control systems.
- Strengthen permit-to-work, energy isolation, and safe work practices.
- Develop effective emergency preparedness, response, and crisis-management strategies.
- Apply structured incident investigation and root-cause analysis techniques.
- Develop contractor HSE management and performance-monitoring systems.
- Evaluate environmental aspects, impacts, pollution risks, and mitigation measures.
- Establish meaningful leading and lagging HSE performance indicators.
- Conduct effective HSE inspections, audits, and compliance reviews.
- Strengthen HSE leadership, workforce engagement, and safety culture.
- Develop integrated HSE improvement strategies aligned with operational and organizational objectives.

Who Should Attend

This program is designed for HSE managers, safety engineers, occupational health professionals, environmental specialists, process safety engineers, industrial safety professionals, and technical personnel working in oil and gas organizations.

It is also suitable for operations, production, drilling, maintenance, engineering, pipeline, refining, processing, terminal, and facilities personnel who have responsibilities involving operational safety, risk control, environmental protection, emergency response, or contractor management.

The program is particularly valuable for managers, supervisors, department heads, HSE coordinators, project leaders, asset managers, and decision-makers who require a comprehensive understanding of HSE management to strengthen operational resilience, reduce risk exposure, improve safety performance, and support sustainable business operations.

Learning Outcomes

- Upon completion of the program, participants will be able to:
- Identify and evaluate major HSE hazards across oil and gas operations.
- Conduct comprehensive workplace and operational risk assessments.
- Apply the hierarchy of controls to eliminate or reduce significant risks.

- Assess occupational health hazards and workplace exposure risks.
- Apply process safety principles to major accident hazard management.
- Establish effective controls for high-risk activities and simultaneous operations.
- Manage permit-to-work and hazardous energy isolation processes.
- Evaluate fire, explosion, chemical, electrical, mechanical, and physical hazards.
- Develop emergency response, evacuation, and crisis-management arrangements.
- Investigate incidents using structured root-cause analysis methodologies.
- Develop effective contractor HSE management systems.
- Assess environmental risks and establish pollution-prevention measures.
- Establish HSE performance indicators and performance-monitoring mechanisms.
- Conduct HSE inspections, audits, and compliance assessments.
- Strengthen safety culture, leadership visibility, and workforce participation.
- Develop an integrated HSE management improvement plan for an oil and gas operation.

Course Outline

DAY 01

HSE Fundamentals & Risk Management in Oil & Gas

- HSE management principles and the oil and gas risk environment.
- Occupational health, industrial safety, process safety, and environmental management.
- Hazard identification techniques and comprehensive risk assessment.
- Risk classification, risk matrices, critical controls, and hierarchy of controls.

PRACTICAL APPLICATION

Conduct an integrated HSE risk assessment for a selected oil and gas operation.

DAY 02

Occupational Health & High-Risk Work Management

- Occupational health hazards, workplace exposure, and health-risk prevention.
- Permit-to-work systems and control of hazardous activities.

DAY 02 — CONTINUED

- Energy isolation, lockout and tagout, and hazardous-energy management.
- Confined spaces, hot work, work at height, lifting operations, and electrical safety.

PRACTICAL APPLICATION

Develop a high-risk work-control plan incorporating hazard identification, permits, isolation, supervision, and emergency requirements.

DAY 03

Process Safety, Fire Protection & Major Accident Prevention

- Process safety fundamentals and prevention of major accident events.
- Loss of containment, ignition sources, explosions, and escalation mechanisms.
- Fire prevention, detection, protection, and emergency shutdown principles.
- Safety-critical elements, barriers, critical controls, and operational integrity.

PRACTICAL APPLICATION

Analyze a major accident scenario and identify failed barriers, critical controls, and preventive measures.

DAY 04

Environmental Management, Emergency Response & Incident Investigation

- Environmental aspects and impacts associated with oil and gas operations.
- Spill prevention, emissions, waste management, hazardous substances, and pollution control.
- Emergency preparedness, response planning, evacuation, and crisis coordination.
- Incident reporting, investigation, root-cause analysis, corrective actions, and lessons learned.

PRACTICAL APPLICATION

Develop an integrated emergency and incident-management response for a simulated oil and gas event.

DAY 05

HSE Leadership, Contractor Management & Performance Improvement

- HSE leadership, accountability, workforce engagement, and safety culture.
- Contractor HSE management, qualification, induction, supervision, and performance evaluation.
- HSE inspections, audits, compliance monitoring, and corrective-action management.
- Leading and lagging indicators, HSE dashboards, continuous improvement, and management review.
- Final Application: Develop a comprehensive HSE management improvement plan for an oil and gas operation covering occupational health, risk management, process safety, high-risk work, environmental protection, emergency response, incident investigation, contractor management, performance measurement, leadership, and continuous improvement.

Register or Request More Information

Course page: <https://quest-training.com/courses/comprehensive-program-in-health-safety-environment-hse-in-oil-gas-training-course>

Website: <https://quest-training.com>

Email: info@quest-training.com

Phone: +905016771440