



Drilling Safety Procedures in the Oil & Gas Industry Workshop

28 June – 2 July 2027
Barcelona (Spain)



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Introduction

This Drilling Safety Procedures in the Oil & Gas Industry workshop provides an understanding of drilling safety procedures within the oil and gas industry, focusing on risk prevention and operational control. It strengthens awareness of hazards associated with drilling operations in both onshore and offshore environments. Participants will explore critical safety frameworks that support well control, blowout prevention, and rig safety management. The program emphasizes practical safety applications aligned with global HSE drilling standards. It highlights the importance of maintaining operational discipline during high-risk drilling activities. It builds a strong foundation for ensuring safe, efficient, and compliant drilling operations.

Targeted Groups

This Drilling Safety Procedures in the Oil & Gas Industry workshop targets professionals seeking knowledge and skills:

- Drilling engineers are involved in the safety of onshore and offshore drilling operations.
- HSE officers are responsible for oil and gas safety and risk compliance.
- Rig supervisors manage drilling operations and crew safety protocols.
- Well-control specialists handling blowout-prevention systems and emergencies.
- Petroleum engineering students preparing for field-based drilling careers.
- Safety inspectors are conducting audits in rig safety management environments.
- Operations managers oversee the execution of drilling projects and ensure safety.

Workshop Objectives

Participants will achieve the following objectives by completing the Drilling Safety Procedures in the Oil & Gas Industry workshop:

- Understand core principles of drilling safety procedures and operational risk control.
- Identify hazards associated with drilling operations safety in complex environments.
- Apply well control techniques to prevent uncontrolled pressure incidents and blowouts.
- Analyze rig safety management systems used in modern oil and gas facilities.
- Evaluate offshore drilling safety requirements and emergency response protocols.
- Develop competence in HSE drilling standards and regulatory compliance practices.
- Interpret drilling risk assessments and implement mitigation strategies effectively.
- Strengthen decision-making skills during high-pressure drilling operations scenarios.
- Enhance awareness of environmental protection in oil and gas safety systems.
- Integrate safety culture principles into daily drilling operations practices.

Targeted Competencies

Participants will gain the following competencies during the Drilling Safety Procedures in the Oil & Gas Industry program:

- Ability to assess drilling hazards and implement preventive safety controls.
- Competence in managing well control systems and blowout prevention equipment.
- Skills in applying drilling operations safety standards in field environments.
- Understanding of offshore drilling safety protocols and emergency readiness.
- Capability to evaluate HSE drilling compliance requirements and audits.
- Proficiency in interpreting rig safety management procedures and reporting risks.
- Ability to respond effectively to drilling emergencies using structured protocols.
- Strong analytical thinking for identifying operational vulnerabilities in drilling systems.

Studying Scenarios

In this Drilling Safety Procedures in the Oil & Gas Industry training, participants develop skills through the following scenarios:

- Sudden pressure increase during drilling and well control response actions.
- Offshore rig emergency evacuation and hazard containment procedures.
- Equipment failure in drilling operations in safety environments.
- Blowout prevention system malfunction and corrective safety measures.
- HSE audit simulation in rig safety management conditions.

Workshop Content

Unit 1: Fundamentals of Drilling Safety Procedures

- Introduction to drilling safety procedures in oil and gas operations.
- Overview of drilling operations, safety, and industrial risk factors.
- Understanding rig safety management structures and responsibilities.
- Core principles of HSE drilling standards and compliance systems.
- Identification of common hazards in onshore drilling environments.
- Safety culture development in oil and gas operational teams.
- Role of communication in maintaining drilling safety performance.
- Importance of procedural discipline in high-risk drilling activities.
- Relationship between safety protocols and operational efficiency.

Unit 2: Well Control and Blowout Prevention Systems

- Fundamentals of well control in drilling operations safety.
- Pressure monitoring techniques in drilling environments.
- Blowout prevention system components and operational logic.
- Kick-detection methods and early-warning indicators.
- Response procedures for uncontrolled well pressure situations.
- Emergency sealing and containment strategies in drilling rigs.
- Coordination between drilling teams during well control events.
- Risk-reduction methods for high-pressure drilling scenarios.
- Maintenance protocols for blowout prevention equipment.

Unit 3: Offshore and Onshore Drilling Safety Management

- Differences between offshore drilling safety and onshore operations.
- Environmental risk exposure in offshore drilling platforms.
- Emergency evacuation planning for offshore drilling crews.
- Rig safety management systems in marine environments.
- Weather-related risks and operational decision-making protocols.
- Onshore drilling site safety inspection procedures.
- Workforce safety training and competency requirements.
- Incident reporting systems in drilling operations safety.
- Coordination between contractors in multi-site drilling projects.

Unit 4: HSE Drilling Standards and Risk Assessment

- Overview of HSE drilling regulatory frameworks.
- Risk assessment methodologies for drilling operations safety.
- Hazard identification techniques in drilling environments.
- Development of mitigation plans for operational risks.
- Compliance requirements for oil and gas safety systems.
- Safety audits and inspection procedures in drilling projects.
- Documentation standards for drilling safety procedures.
- Monitoring key performance indicators in rig safety management.
- Continuous improvement strategies for safety performance.

Unit 5: Emergency Response and Crisis Management in Drilling

- Emergency preparedness in drilling operations safety systems.
- Crisis communication protocols during drilling incidents.
- Fire and explosion risk management in drilling environments.
- Evacuation procedures for offshore drilling platforms.
- Coordination with emergency response teams and authorities.
- Post-incident investigation and root cause analysis methods.
- Recovery planning after drilling safety incidents.
- Psychological readiness of drilling personnel during emergencies.
- Strengthening resilience in oil and gas safety operations.

Final Insights & Key Takeaways

Effective drilling safety procedures are essential for minimizing operational risks and ensuring sustainable oil and gas production. Strong adherence to well control, HSE standards, and rig safety management significantly reduces the likelihood of critical incidents.