HSE Risk Management for Onshore and Offshore Drilling Training Course



26 - 30 Oct 2026

Cape town

4600 € (Per Person)

Ref: #HSE5913_276790

Course Introduction / Overview:

This intensive training course provides a comprehensive framework for identifying, assessing, and managing Health, Safety, and Environment (HSE) risks inherent in onshore and offshore drilling operations. In an industry where the margin for error is virtually non-existent, mastering HSE principles is not just a matter of regulatory compliance but a cornerstone of operational excellence, asset integrity, and corporate responsibility. The curriculum delves into the complex interplay of technical, procedural, and human factors that influence safety outcomes. Drawing upon foundational concepts in process safety, as detailed by pioneers like Trevor Kletz, this program moves beyond theoretical knowledge to instill practical, on-the-ground skills. Participants will explore critical topics from well control and blowout prevention to advanced risk assessment methodologies like HAZOP and Bowtie analysis. BIG BEN Training Center has designed this course to equip professionals with the foresight to anticipate hazards and the competence to implement robust control measures, ensuring the protection of personnel, the environment, and high-value assets in one of the world's most demanding industries.

Target Audience / This training course is suitable for:

- Drilling Supervisors and Engineers.
- Rig Managers and Tool pushers.
- HSE Advisors and Managers.
- Well Site Leaders and Company Men.
- Operations and Project Managers.
- Subsea and Marine Engineers.
- Regulatory Compliance Officers.
- Incident Investigators and Emergency Response Team Leaders.

Target Sectors and Industries:

- Oil and Gas Exploration and Production (E&P) Companies.
- Onshore and Offshore Drilling Contractors.
- Oilfield Service and Equipment Providers.
- Engineering, Procurement, and Construction (EPC) Firms.
- Governmental bodies, national oil companies, and regulatory agencies.
- Marine and Logistics Support Companies.

Target Organizations Departments:

- Health, Safety, and Environment (HSE).
- Drilling and Completions.
- Operations and Production.
- Engineering and Maintenance.
- Project Management.
- Risk Management and Assurance.
- Regulatory and Corporate Compliance.

Course Offerings:

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

- Develop and implement a robust Safety Management System (SMS) for drilling operations.
- Conduct comprehensive Hazard Identification (HAZID) and risk assessments for both onshore and offshore environments.
- Apply advanced risk management tools such as Bowtie analysis and Hazard and Operability (HAZOP) studies.
- Master the principles of Process Safety Management (PSM) specific to drilling activities.
- Formulate and execute effective Emergency Response Plans (ERP) for critical scenarios like blowouts and spills.
- Investigate incidents using structured methodologies like Root Cause Analysis (RCA) to prevent recurrence.
- Manage the unique risks associated with Simultaneous Operations (SIMOPS).
- Foster a proactive safety culture by understanding and influencing human factors and leadership behaviors.
- Ensure operational activities comply with key international standards and regulations like API and IADC.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, engaging, and practical, ensuring that participants can directly apply their learning to their work environments. This course moves beyond traditional lectures by integrating a dynamic blend of learning techniques. A significant portion of the program is dedicated to analyzing real-world case studies of major industry incidents, allowing participants to deconstruct complex failures and identify critical lessons learned. Facilitated group discussions and workshops encourage the sharing of diverse experiences and perspectives, enriching the collective understanding of HSE challenges. Participants will engage in hands-on exercises, including the development of Job Safety Analyses (JSAs) and participation in simulated HAZOP sessions. The course emphasizes a problem-solving approach, where teams collaborate to tackle realistic drilling operation scenarios and develop mitigation strategies. Continuous feedback from the instructor and peer-to-peer reviews are integral to the learning process, creating a supportive and collaborative atmosphere that fosters deep comprehension and skill mastery.

Course Agenda (Course Units):

Unit One: Foundations of HSE Management in Drilling

- Introduction to HSE in the Oil and Gas Industry.
- The legal and regulatory framework for drilling operations.
- Key international standards (API, IADC, ISO).
- Fundamentals of Safety Management Systems (SMS).
- The role of leadership and commitment in HSE performance.
- Understanding and building a positive safety culture.
- The financial and operational impact of HSE failures.

Unit Two: Hazard Identification and Risk Assessment

- Principles of hazard identification and risk assessment.
- Job Safety Analysis (JSA) and Task Risk Assessment (TRA).
- Hazard Identification (HAZID) study methodology.
- Hazard and Operability (HAZOP) study for drilling systems.
- Specific hazards in onshore drilling operations (e.g., H2S, land transport).
- Unique hazards in offshore drilling (e.g., marine, aviation, dropped objects).
- Quantitative Risk Assessment (QRA) concepts.

Unit Three: Advanced Risk Control and Mitigation

- Hierarchy of controls in drilling applications.
- Process Safety Management (PSM) elements.
- Barrier management and Bowtie analysis.
- Management of Change (MOC) procedures.
- Permit to Work (PTW) systems and energy isolation.
- Managing risks of Simultaneous Operations (SIMOPS).
- Contractor HSE management and oversight.

Unit Four: Emergency Preparedness and Incident Management

- Developing effective Emergency Response Plans (ERP).
- Blowout prevention and well control procedures.
- Spill prevention, control, and countermeasures.
- Fire prevention and protection systems on rigs.
- Medical emergency response and evacuation planning.
- Structured incident investigation and reporting.
- Root Cause Analysis (RCA) techniques.

Unit Five: Human Factors, Environment, and Continuous Improvement

- Understanding human factors and human error in drilling.
- Behavior-Based Safety (BBS) programs.
- Fatigue risk management systems.
- Environmental impact assessment for drilling projects.
- Waste management and emissions control.
- HSE auditing and performance measurement.
- Strategies for continuous improvement in HSE.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

Beyond procedural compliance and technical safeguards, how can an organization effectively measure and cultivate the psychological safety necessary for frontline drilling crews to report near-misses and stop work without fear of reprisal?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself through its integrated approach, seamlessly blending the distinct challenges of both onshore and offshore drilling environments into a single, cohesive curriculum, which is a rarity in specialized training. Rather than treating them as separate domains, it fosters a holistic understanding of risk management across the entire drilling spectrum. The program's core strength lies in its emphasis on practical application and critical thinking, moving far beyond theoretical instruction. We utilize in-depth analysis of landmark industry case studies not merely as historical lessons, but as interactive workshops for dissecting complex system failures. A significant focus is placed on advanced, proactive risk management tools like Bowtie analysis, equipping participants with the ability to visualize and strengthen safety barriers before an incident occurs. Furthermore, the course dedicates a substantial unit to the often-underestimated role of human factors and safety leadership. It aims to cultivate HSE leaders who can drive cultural change and build resilient safety systems, rather than just managers who enforce rules, ensuring a more profound and sustainable impact on operational safety.