Advanced Risk Management and Accident Investigation Training Course



07 - 11 Dec 2026

Cape town

4600 € (Per Person)

Ref: #HSE9316_263052

Course Introduction / Overview:

In high-risk industries, the ability to effectively manage risk and thoroughly investigate accidents is not a luxury, it's a necessity for survival and sustainability. This comprehensive training course, offered by BIG BEN Training Center, is designed to provide professionals with the advanced skills needed to anticipate, prevent, and respond to industrial incidents. The program goes beyond reactive measures, focusing on a proactive, systemic approach to risk management that identifies and mitigates potential hazards before they escalate. Participants will learn how to use structured investigation techniques to determine root causes, ensuring that corrective actions are effective and prevent recurrence. This training is for those who are ready to become leaders in operational excellence and safety. Drawing on academic and industry best practices from leading experts like Professor Nancy Leveson, known for her groundbreaking work on system safety and her book "Engineering a Safer World," the course provides a solid foundation of theoretical knowledge combined with practical, real-world application. It addresses key topics like human factors, organizational culture, and the complex interactions that can lead to accidents. BIG BEN Training Center is committed to equipping professionals with the advanced skills necessary to build a resilient and safe operational environment.

Target Audience / This training course is suitable for:

- HSE managers and directors.
- Risk managers.
- Operations and production managers.
- Engineers and technical specialists.
- Incident investigators.
- Compliance and quality assurance professionals.
- Corporate leadership.
- Government regulators and investigators.

Target Sectors and Industries:

- Oil and gas.
- Nuclear energy.
- Aviation and aerospace.
- Chemical and petrochemical.
- Mining and heavy industry.
- Construction.
- Transportation.
- Government agencies and public services.

Target Organizations Departments:

- Health, safety, and environment (HSE) departments.
- Risk management.
- Operations and production.
- Engineering.
- Corporate governance.
- Quality assurance.
- Legal and compliance.

Course Offerings:

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

- Conduct a comprehensive risk assessment in high-risk environments.
- Develop and implement a proactive risk management framework.
- Lead a systematic and objective investigation into accidents.
- Use advanced root cause analysis techniques.
- Identify human factors and organizational causes of incidents.
- Develop effective corrective and preventive action plans.
- Ensure compliance with international standards for risk and investigation.
- Communicate investigation findings to stakeholders.
- Use incident data to drive continuous improvement.

Course Methodology:

This training course at BIG BEN Training Center uses a highly immersive and hands-on methodology to ensure that participants are prepared for the unique challenges of high-risk industries. The program combines clear, detailed lectures with in-depth case studies of major industrial accidents. This allows participants to analyze real-world scenarios and develop critical problem-solving skills. The core of the course is built around practical workshops where participants will conduct simulated accident investigations from start to finish. They will practice interviewing witnesses, collecting evidence, and using advanced analytical tools to determine root causes. The instructor provides personalized feedback and guidance throughout these exercises, helping each participant master the core competencies. By focusing on practical application and simulation, BIG BEN Training Center ensures that participants leave with confidence and skills needed to manage risks and lead investigations effectively, protecting lives and assets.

Course Agenda (Course Units):

Unit One: Strategic Risk Management

- Principles of proactive risk management.
- Risk identification and assessment in high-risk sectors.
- Quantitative and qualitative risk analysis.
- Risk control and mitigation strategies.
- Risk communication to leadership and stakeholders.
- Developing a risk management framework.
- The link between risk and opportunity.

Unit Two: Accident Investigation Fundamentals

- The purpose of an investigation: finding root causes.
- Systematic investigation models (e.g., Bowtie, STAMP).
- Roles and responsibilities of an investigation team.
- Preserving the scene and collecting evidence.
- Interviewing witnesses and personnel.
- Immediate vs. root causes.
- The investigation reports.

Unit Three: Advanced Root Cause Analysis Techniques

- Introduction to common RCA methods.
- The five whys and fishbone diagrams.
- Barrier analysis.
- Failure Modes and Effects Analysis (FMEA).
- Human Factors Analysis and Classification System (HFACS).
- Identifying latent conditions and organizational weaknesses.
- Developing actionable recommendations.

Unit Four: Human and Organizational Factors

- Understanding human errors and performance.
- The role of safety culture in accident causation.
- Organizational factors and leadership.
- Communication failures.
- Training and competence issues.
- Managing change and its impact on safety.
- The concept of a "just culture".

Unit Five: Implementation and Continuous Improvement

- Developing a corrective and preventive action plan.
- Monitoring the effectiveness of actions.
- Using incident data for trending and analysis.
- Integrating investigation findings into training.
- Auditing the investigation process.
- The legal and ethical implications of investigation.
- Building a learning organization.

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:

How can a thorough accident investigation be transformed from a blame-focused process into a powerful learning tool that prevents future incidents and strengthens organizational resilience?

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

This program stands out by providing an integrated and advanced approach to both risk management and accident investigation in high-risk industries. While many courses cover these topics separately, this training offers a holistic view, preparing professionals to proactively manage risks and reactively learn from failures. The course is highly practical and immersive, featuring hands-on case studies and simulated investigations that are directly relevant to real-world industrial environments. The program also emphasizes the crucial role of human and organizational factors, teaching participants how to look beyond surface-level mistakes to find the true systemic causes of an incident. This makes the training a valuable opportunity for professionals to become true experts in their field, capable of building a safer, more resilient organization from the ground up.