

H S E

HEALTH

SAFETY

ENVIRONMENT



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Process Risk Assessment

Duration: 5 Days



Introduction:

Traditional' risk assessment programs exist to identify hazards arising from work activities to ensure suitable risk control measures are in place. However, incidents continue to happen, either as a result of inadequate risk assessments or failures in the necessary risk control

measures.

Risk management involves the preparation of action plans, implementing and measuring performance. This can be proactive, based on risk assessments, active, based on safety audits and site inspection, and reactive based on incident investigation and analysis.

This program presents the cutting edge of advanced risk assessment techniques that are based on latest International Standards and best industry practice. This program is designed to provide delegates with the knowledge and skills necessary to design implement and monitor effective risk assessment for their organization.

Pre-Requisite

No previous experience in risk assessment is necessary. Adequate guidance is given during this program through individual and group work.

Training Methodology

By leading experts who provide innovative and interesting training sessions and present the cutting edge of advanced risk assessment techniques that are based on latest International Standards and best industry practice. The program is designed to provide delegates, through individual and group exercises, with the knowledge and skills necessary to plan, implement and monitor effective risk assessment systems for their organization.

Certificate

BTS attendance certificate will be issued to all attendees completing minimum of 80% of the total course duration.

Who Should Attend?

- Personnel involved in carrying out risk assessment and accident prevention
- Personnel involved in implementing the Company's HSE Management System
- Professionals wishing to widen their understanding of undertaking and managing process risks within the organization's HSE Management System
- The Workshop is also designed for other professionals who need to keep up-to-date with latest trends in risk management

Course Objectives:

- Selection of appropriate risk assessment techniques, including process/work place based versus the task-based approach
- Monitor and review the effectiveness of an organization's risk assessment procedures relevant to process hazards
- Plan improvements to your organization's risk assessment procedure on a rational basis
- Implement risk control strategies and recommend long term risk controls based on cost-benefit analysis
- Develop an audit plan for HSE Management System
- Develop procedures for incident investigation and analysis
- Design a feedback system to ensure that the organization continues to review and learn from experience

The following examples/case studies are selected for analysis:

- Bhopal disaster
- BP Texas Refinery blast, and the Baker Panel Recommendations
- Machinery/work equipment safety
- High Integrity Protective Systems 'HIPS'
- Piper Alpha offshore disaster
- Accidents on construction sites
- Accidental releases of hazardous substances from vessels, process units and pipelines
- Latest fire/explosion and toxic releases modeling commercial software

Course Outline:

Introduction to Risk Assessment

- Program introduction: delegate and tutor introductions; program objectives
- Introduction to HSE Management Systems
- Integrating risk assessment within Risk Management
- Semi-quantitative risk assessment techniques - machinery based
- The task-based approach to risk assessment
- Syndicate exercise: Working in small groups

Hazard and Operability Studies 'HAZOP'

- Introduction to hazards identification and analysis techniques
- Techniques for hazard identification and analysis - HAZOP
- Syndicate exercise - application of HAZOP to relevant processes
- Planning and implementing within risk management system

Analysis of the consequences

- Introduction into reliability technology
- Failure Modes and Effects Analysis 'FMEA'
- Failures of Permit-to-work systems: video presentation on Piper Alpha
- Analysis of the consequences- mechanics of fire, explosion and toxic releases
- Role of Fault Tree Analysis to identify how accidents can happen
- Group exercise on FTA

Human Factors and Reliability

- Introduction to human factors and human error

- Hierarchical task analysis 'HTA'
- Task-based HAZOP: Application to critical activities onshore and offshore
- Working in small groups on task-based hazop
- Integrating human factor within HSE management system - The Bhopal disaster

Modern HSE Management Systems

- Program introduction: delegate and tutor introductions; program objectives
- Introduction to HSE Management Systems
- Elements, sub-elements and expectations of HSE-MS
- The role of risk management within HSE-MS
- The role of HSE Audits
- Procedures for planning and implementing of action plans