

H S E

HEALTH

SAFETY

ENVIRONMENT



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Risk Assessment within Production Operations

Duration: 5 Days



Introduction:

Health, Safety and Environmental Management Systems are based on a proactive process for incidents prevention. Risk assessment is required to be applied to all activities that impacts on health and Safety, production, asset, environment and the Company reputation. Participants will

learn how to improve their practical skills in applying risk assessment techniques relevant to your activities and effectively balance risk against cost in order to optimize risk reduction measures. Also, you will be more able to motivate your people for improved safety culture and appreciate the role of Quantified Risk Assessment and major hazards.

Who Should Attend?

All supervisors and line management who need to fulfill their role within HSE, production, process, mechanical, control, maintenance and HSE personnel, all personnel involved in implementing HSE Management System

Course Objectives:

By the end of this course delegates will be able to:

- Recognize the difference between hazard, risk and risk assessment
- Learn how to evaluate different types of risk
- Develop the skills of applying advanced risk assessment techniques
- Develop a strategy for planning and implementing risk reduction action plans
- Discover a variety of communication styles to effectively cope with different situations
- Plan and conduct successful appraisal interviews with their team
- Create a Plan of Action to implement in their organization

Course Outline:

Introduction to Risk Assessment:

- Program introduction delegate and tutor introductions, program objectives
- The concepts of hazards, risk and risk assessment
- Human contribution to accidents- Piper Alpha disaster
- Methods for risk evaluation
- Integrating risk assessment within Risk Management

- Semi-quantitative risk assessment techniques
- The task-based approach to risk assessment
- Syndicate exercise Working in small groups

Risk Assessment Techniques HAZOP

- Introduction to hazards identification and analysis techniques
- Techniques for hazard identification and analysis- HAZOP
- Syndicate exercise- application of HAZOP to relevant processes
- Integrating HAZOP within the risk management system
- Planning and implementing HAZOP Actions
- Failure Modes and Effects Analysis FM and EA

- Introduction into reliability technology

Failure Modes and Effects Analysis FM and EA

- Failures of Permit-to-work systems
 - 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 Risk Assessment
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- 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 hazops
 - Integrating human factor within HSE management system

The Role of Quantified Risk Assessment QRA

- Introduction to Quantified Risk Assessment
- The role of Event Tree Analysis in scenario development
- The role of Fault Tree Analysis for multi-causation analysis
- Applications for ETA and FTA

- Case Study working in small groups on QRA- Loss of containment event
- Preparation of action plans, planning and implementing
- Report back and discussion
- Personal action plans, program review and the way ahead