

€ TRAINING

Risk Assessment within Production
Operations





Risk Assessment within Production Operations

Introduction:

Health, Safety, and Environmental Management Systems are based on a proactive process for incidents prevention as well as reactive monitoring of performance. Risk assessment is required to be applied to all activities that impact on health & safety, production, asset, environment, and the Company reputation

Conference Objectives:

At the end of this conference the participants 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 relevant to the process industry
- Develop a strategy for planning and implementing risk reduction action plans
- Appreciate the contribution of human error to accidents
- Apply advanced techniques for root-cause analysis for incidents

Targeted Audience:

- Management and those with responsibilities for analyzing risks and incidents
- Production, project, process, mechanical, control, maintenance, and HSE Personnel
- All personnel involved in implementing the Company's HSE Management System

Conference Outlines:

Unit 1: Advanced Risk Assessment Techniques: HAZOP

- Introduction to hazards identification and analysis techniques
- Techniques for hazard identification and analysis- HAZOP
- Syndicate exercise- application of HAZOP to batch and continuous processes
- Integrating HAZOP within the risk management system
- Review of commercial HAZOP software

Unit 2: The Role of Quantified Risk Assessment [QRA]

- Failure Modes & Effects Analysis [FMEA]
- Decision trees and Event Tree Analysis [ETA]
- Sources of failure data
- Fault Tree Analysis [FTA]
- Quantification of ETA and FTA
- Evaluation of Individual and Societal Risks

Unit 3: Mechanics of Fire, Explosion, and Toxic Releases:

- The role of consequence analysis in QRA
- Types of Fires: Jet flame, pool fire, flash fire, BLEVE
- Types of Explosion: VCE, UVCE, pressure burst, dust explosion
- Vulnerability analysis
- Commercial software for modeling releases, fire, explosion and toxic releases

Unit 4: Advanced Incidents Investigation Techniques:

- Human contribution to accidents
- The role of root cause Analysis in identifying management system failures
- Accident investigation techniques
- Latent failure and root causes for incidents
- Techniques for root-cause analysis

Unit 5: Promoting a Positive Safety Culture:

- Introduction to Safety Culture
- Techniques for improving safety culture
- Measuring improvements in safety culture
- Integrating safety culture within the HSE Management System