



*Conference:
Safety Technology & Risk Management*

*24 - 28 May 2027
Madrid (Spain)*

Conference: Safety Technology & Risk Management

Conference code: CO8177 From: 24 - 28 May 2027 Venue: Madrid (Spain) - Conference Fees: 6300 € Euro

Introduction

This conference focuses on safety engineering and risk assessment in complex technological systems, emphasizing the importance of managing safety hazards in plant operations. Participants will learn methods for eliminating, mitigating, and controlling major hazards, following internationally recognized principles from bodies like IChemE. The seminar will cover proactive and reactive processes for assessing and controlling risks, helping organizations comply with evolving environmental and economic standards. The goal is to reduce accidents, production disruptions, and legal liabilities while protecting company assets and the environment.

Objectives

- Apply the principles of hazard identification and assessment of risk to processes and machinery
- Understand reliability concept and use of failure tracing methods
- Demonstrate a practical understanding of a quantitative risk assessment technique and the data required for records
- Advise management on the most effective control methods based on the evaluation of risk
- Identify the general requirement for the development of a safe system of work
- Recognize relevant International Standards for Reliability and Machinery Safety

Target Audience

- Safety engineers and process safety professionals in industrial and process sectors
- HSE Health, Safety & Environment managers and officers
- Risk assessment and risk management specialists
- Plant managers and operations supervisors in chemical, petrochemical, oil & gas, and manufacturing industries
- Mechanical, chemical, and process engineers involved in design, operation, and maintenance of equipment
- Reliability engineers and maintenance engineers
- Machinery safety and industrial safety compliance officers
- Quality, compliance, and regulatory affairs professionals
- Consultants specializing in safety engineering, hazard analysis, and risk management
- Government inspectors, auditors, and regulatory professionals involved in industrial safety standards
- Any professionals responsible for hazard identification, safety systems, and risk control in high-risk operations

Outlines

Day 1: Hazard Identification

- Introduction and course overview
- Why do we need safety engineering
- Examples of major disasters
- The safety system process
- Hazard identification
- Hazard control
- Criteria for risk tolerability
- Hazard Identification Techniques
- Design out hazards
- Safety standards codes, national and international
- Safety analysis in engineering
- Safety analysis in Chemical process
- Safety analysis in manufacturing

Day 2: Risk Assessment Techniques

- Safety Management
- Safety in the system life cycle
- Hazard identification check-list
- Process, workplace, work equipment risk assessment
- Task-based risk assessment
- Introduction to HAZOP

Day 3: Machinery and Work Equipment Safety

- Machinery hazard identification
- Causes and methods for machinery accident prevention
- HAZOP examples

- Failure modes, human factors, and software safety
- Conducting a failure mode and effects analysis
- Human factors safety analysis
- Performance and human error
- Human factors and safety analysis

Day 4: Reliability Technology

- Types and causes of failures
- Methods of preventing failure
- Types of maintenance and inspection regimes
- Reliability of components and systems
- Design and reliability of control systems
- Design and reliability of protective systems
- The concept of "HIPS"
- Safety Integrity Levels "SIL" selection

Day 5: Consequences Analysis

- Mechanics of fire, explosion, and toxic releases
- Dispersion modeling software
- Types of fire: flash, jet, cascading fires and BLEVE
- Types of explosion
- Quantification of risk
- Event Tree Analysis "ETA"
- ConferenceSummary
- Conference Review

Registration form on the Conference: Safety Technology & Risk Management

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