€TRAINING

Safety Technology and Risk Management

4 - 8 August 2024
Online

Safety Technology and Risk Management

Introduction:

This training program provides participants with a comprehensive understanding of safety protocols and risk mitigation strategies. Through it, participants are equipped with the knowledge and skills necessary to implement effective safety measures and manage risks across various industries and environments.

Program Objectives:

At the end of this program, participants will be able to:

- 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 date 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.

Targeted Audience:

- Plant Professionals.

- Engineers.

- Designers.

- All Professionals who have a contribution to make in ensuring the safe operation of a potential high hazard workplace.

Program Outlines:

Unit 1:

Hazard Identification:

- Why do we need safety engineering?

- Examples of Major Disasters.

- The Safety System Process.

- Criteria for Risk Tolerability.

- Hazard Identification Techniques and Control, Design Out Hazards.

- Safety Standards Codes, National and International.

- Safety Analysis in Engineering and Manufacturing.

Unit 2:

Risk Assessment Techniques:

- Safety Management.

- Safety in System Life Cycle.

- Hazard Identification Checklist.

- Process, Workplace, Work Equipment Risk Assessment.

- Task-based Risk Assessment.

- Introduction to HAZOP.

Unit 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 Failure Mode and Effective Analysis.

- Performance and Human Error.

- Human Factors and Safety Analysis.

Unit 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.

Unit 5:

Consequences Analysis:

- Mechanics of Fire, Explosion, and Toxic Releases.

- Dispersion Modelling Software.

- Types of Fire: Flash, Jet, Cascading Fires, and BLEVE.

- Types of Explosion.

- Quantification of Risk.

- Event Tree Analysis ⟨ETA⟩.