

H S E

HEALTH

SAFETY

ENVIRONMENT



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Safety Engineering Best Practices

Duration: 5 Days



Introduction:

Many organizations in the Middle East do not implement the latest relevant International Safety Standards for machinery, work equipment and for the design of control and protective systems with safety-related functions. This

program, based on NEBOSH standards, is intended to update the participants with the most relevant up-to-date international standards in the field of safety technology.

Who Should Attend?

Technical personnel involved in project work, personnel involved in construction activities, mechanical, electrical, instrumentation, maintenance, design and HSE technical personnel

Course Objectives:

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

- Familiarize with the risk-based approach to construction safety and contract work.

- Improve their experience in the application of reliability technology for the selection of appropriate Safety Integrity Levels (SIL) for protective and safety systems
- Ensure consistent optimization of resource allocation for production, maintenance and safety, based on risk and cost-benefit analysis.
- Improve practical application of reliability and risk assessment techniques to new projects and existing machinery systems
- Update knowledge on modern concepts of machinery and work equipment safety based on the latest International machinery safety standards
- Develop a clear understanding of machinery and work equipment risk assessment techniques
- Review the role of modern concepts for the design of fluid power machinery and systems.
- Develop adequate level of skills for construction safety plans and project work.
- Describe the consequences and mechanism of fire, explosion and toxic releases.

Course Outline:

Machinery Safety

- Review of the causes of machinery and work equipment accidents
- Review of relevant European and International machinery safety standards.
- Duties of designers suppliers of new machinery
- Duty of management for existing and new machines and work equipment safety
- The role of risk assessment within International machinery safety standards
- Selection of the type and level of integrity of Machinery Safeguards and Safety Devices

Construction Safety

- Review of causes and methods for preventing construction activities incidents
- Construction site and activities hazards identification
- The role of task-based risk assessment in preparing Method Statements
- Construction activities Safety Plan
- How to audit and review contractors

Introduction to Reliability Technology

- Introduction into Reliability Technology
- Reliability calculation
- Types of failures: the bathtub curve
- Types of inspection and maintenance
- Types of systems: series parallel and non-series non parallel

Protective Systems Design and Reliability

- Elements of control and protective systems
- Reliability of control systems
- The concept of fractional dead time and protective systems
- High Integrity Protective Systems 'HIPS'
- Hazardous Area Classification
- Active fire explosion protection systems
- Control Systems with safety-related functions

Analysis of the Consequences of Major Hazards

- Mechanics and types of fire and explosions
- Effects of pool fires, jet flames and flash fires on personnel and structures
- Vapour cloud explosions and BLEVE
- Modern software tools for modeling of fires, explosion and toxic releases
- Personal action plans, program review and the way ahead