



HSE143

Advanced Process Risk Assessment & Management

Course Introduction:

This course presents the advanced risk assessment and risk management techniques that are based on latest International Standards and best industry practice. This Course will provide delegates with the knowledge and skills necessary to design, implement and monitor effective risk assessment and risk management systems for their organization.

This programme is aimed at providing hands-on experience on the application of advanced risk assessment techniques relevant to the oil, gas and process industries. This programme will enable delegates to identify hazards, particularly those resulting from human error, evaluating risks and targeting resources to prevent accidents through effective risk management. It will also provide familiarity with Quantified Risk Assessment 'QRA' and review latest software on fire, explosion and dispersion modelling following hydrocarbon and toxic releases.

Course Objectives:

Upon successful completion of this course, the delegates will be able to:

- Obtain an advanced knowledge on risk assessment and risk management in process industry
- Understand the methodology of advanced risk assessment and introduce HAZOP techniques and application
- Identify the effect of risk assessment's procedures relevant to process hazards and discuss analysis in risk assessment including failure mode and effect analysis, event and decision tree analysis and fault tree analysis
- Recognize risk assessment and management and the application of software in assessing the possible hazards in process industries
- Apply advanced techniques for incident analysis
- Introduce safety culture in the organization

Who Should Attend?

This course is intended to production, project, process, mechanical, control, maintenance and HSE personnel and all personnel involved in implementing the company's HSE management system.

Course Outline:

Day 1:

Introduction to Advanced Risk Assessment Methodology

- How to identify vulnerability and the tools required for precise analysis.
- Introduction of HAZOP technique
- Application of HAZOP to an in-class case study
- Application of HAZOP in risk management
- HAZOP software analysis

Day 2:

Quantified Risk Assessment

- Introduction of Failure Mode & Effect Analysis
- Event & Decision tree analysis
- Why does data fail
- Introduction of Fault Tree Analysis
- Computing Fault Tree and Decision tree analysis

Day 3:

The Dynamics of Fire, Explosion & Toxic Release

- Different types of Fire hazards: Pool fire, BLEVE, flash
- Different types of explosion: Pressure leak, VCE, UVCE, dust outburst
- Analyzing the vulnerability of the system
- Computer software hazard modelling

Day 4:

Incident Analysis Advanced Techniques

- Human error contribution towards accidents.
- Root cause system analysis and techniques
- Incident analysis methodology
- Dormant failure

Day 5:

Introducing a Culture of Safety within the Workplace

- Safety culture and its role within the organization
- Improving the work force's attitude towards workplace safety
- Introduction to the HSE Management system

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work
- Discussion
- Presentation

Course Fees:

To be advised as per the course location. This rate includes participant's manual, Hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session