



Asia Masters Center

Advanced Process HAZOP



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Course Objective

- Understand the concepts of Risk Assessment and Risk Management
- Understand the estimation and evaluation of risks – Qualitative, Semi-Quantitative and Quantified Risks
- Techniques for Hazard Identification and Analysis – Check-Lists, Risk Profiling, HAZOP, FMEA and Task-Based Risk Assessment
- Cause-Consequences Analysis – The Role of Fault Trees and Event Trees in Accident Prevention
- Understand HAZOP studies their benefits and their short comings
- Understand the requirements of a Team Leader or Facilitator, scribe and team members during HAZOP studies
- Be able to facilitate a HAZOP study

Target Audience

- HSE Technical personnel
- Project Engineers
- Maintenance personnel
- Process Engineers involved in design and modification
- Instrumentation and Control Engineers



Course Outline

- **Day1 - Introduction to Risk Assessment**
- Seminar introduction: delegate and tutor introductions; course objectives
- The concepts of hazards, risk and risk assessment
- Methods for risk evaluation
- Integrating risk assessment within Risk Management
- Qualitative, Semi-Quantitative and Quantitative Risk Assessment methodologies
- Feedback and review of Day 1

- **Day2 - Risk Assessment Techniques: HAZOP**
- Introduction to hazards identification and analysis techniques
- Techniques for hazard identification and analysis – HAZOP
- Where and when to use HAZOP and the requirements for a successful HAZOP study
- Team composition for HAZOP studies
- Guide words and process variables used for HAZOP studies
- Syndicate exercise – application of HAZOP to relevant processes
- Report back and review of Day 2



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➤ **Day3 - Hazop Leadership Techniques**

- HAZOP team leader/facilitator requirements
- HAZOP scribe requirements
- Facilitating HAZOP studies, do's and don'ts
- Information required to allow successful HAZOP studies
- Case study where each delegate has the opportunity to facilitate a HAZOP meeting
- Review of commercial software used for HAZOP and Management of Change 'MOC'
- Report back and review of Day 3

➤ **Day4 - Consequence Analysis**

- Theory behind fire, explosion and toxic dispersion modelling utilised in Quantitative Risk Assessments
- Types of fires and their effects on people and equipment
- Types of explosions and their effects on people and equipment
- Review of software available for consequence calculations
- Report back and review of Day 4

➤ **Day5 - The Role of QRA**

- Introduction to Quantified Risk Assessment "QRA"
- The role of Event Tree Analysis in scenario development
- The role of Fault Tree Analysis for multi-causation analysis
- Applications for ETA and FTA
- Failure data for use in QRA's
- Societal Risk and Individual Risk
- Review of software available for Quantitative Risk Assessments
- Report back on day 5 and discussion
- Programme review and the way ahead

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➔ **The Cost Of The Training Program Includes The Following:**

- 1) Scientific article on flash memory.
- 2) Training Room.
- 3) Training.
- 4) Coffee break.
- 5) The training bag includes all the tools for the course.



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Price (USD)

Communicate with the training department
to know the participation fees

➤ **There are offers and discounts for groups**

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