



*Training Course:  
Advanced Process HAZOP*

*6 - 10 May 2024  
Accra (Ghana)*

## Training Course: Advanced Process HAZOP

Training Course code: LS32456 From: 6 - 10 May 2024 Venue: Accra (Ghana) - Training Course Fees: 5950 € Euro

### Introduction

It is universally recognised that for any company to succeed it must take a proactive approach to risk management. Over the last few years Companies and a number of Countries legislators have been focusing on Process Safety as a method to reduce the risks posed by hazardous industries. Process Hazard Analysis PHA is recognised as being a critical tool in the implementation of a successful risk management system.

As Hazard and Operability HAZOP studies are now recognised world-wide as being the qualitative risk assessment methodology of choice in the Process Industries, there will be additional focus on this specific aspect of Process Hazard Analysis.

The delegates will learn:

- How to Apply Advanced Risk Assessment Techniques
- Mechanics of Dispersion, Fire, Explosion and Toxic Releases
- The Concept of Quantified Risk Assessment [QRA]
- Hazard and Operability HAZOP Study Methodology
- HAZOP Team Leadership

### Objectives of Process HAZOP

- 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

### Who Should Attend?

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

### Outline of Process HAZOP

## DAY 1

### Introduction to Risk Assessment

- Training Seminar Introduction: Delegate and Instructor Introductions; Training Seminar 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

## DAY 2

### 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

## DAY 3

### 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

## DAY 4

### 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

## DAY 5

### 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 QRAs
- 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

## Registration form on the Training Course: Advanced Process HAZOP

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Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

### Delegate Information

Full Name (Mr / Ms / Dr / Eng): .....  
Position: .....  
Telephone / Mobile: .....  
Personal E-Mail: .....  
Official E-Mail: .....

### Company Information

Company Name: .....  
Address: .....  
City / Country: .....

### Person Responsible for Training and Development

Full Name (Mr / Ms / Dr / Eng): .....  
Position: .....  
Telephone / Mobile: .....  
Personal E-Mail: .....  
Official E-Mail: .....

### Payment Method

- ☐ Please find enclosed a cheque made payable to Global Horizon
- ☐ Please invoice me
- ☐ Please invoice my company

### Easy Ways To Register

Telephone:  
+201095004484 to  
provisionally reserve your  
place.

Fax your completed  
registration  
form to: +20233379764

E-mail to us :  
info@gh4t.com  
or training@gh4t.com

Complete & return the  
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