

# H S E

HEALTH

SAFETY

ENVIRONMENT



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## **Incident Investigation & Effective Safety Risks Management**

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**Duration:** 5 Days



### **Introduction:**

An essential part of risk and incident analysis is to provide management with decision making criteria for determining and subsequently establishing an organization's range of acceptable, tolerable and unacceptable risk category

levels for the effective management of all their significant health, safety and process risks.

**In this BTS training course delegates will advance their knowledge and skills by:**

- Understanding the importance and role of risk and incident analysis
- Learning the principles of risk management and assessment process
- Being able to analyze risks and incidents and consider the underlying causes
- Learning how to select/implement pro-active incident prevention measures
- Understanding pre and post risk and incident management

## Who should attend?

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- Management and those with responsibilities for analyzing risks and incidents
- Production, process, maintenance, and HSE personnel
- Line-management involved in planning and/or implementing the organization's risk and incident analysis program

## Course Objectives:

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

- Gaining an appreciation of risk and incident analysis techniques
- Identification of potential plant, process and work task related risks
- Developing and implementing Risk Management program
- Understanding how to carry out comprehensive incident analysis using evaluation tools, including root cause analysis (RCA)
- Develop skills for analyzing new and existing risk control measures and improving incident analysis techniques of pre and post risk and incident management arrangements

## Course Outline:

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### Day 1 - Advanced Risk Analysis

- Principles Of Risk Analysis
- An introduction to the ISO 31000 International Risk Management Standard
- Consideration of the Risk Analysis Framework
- Risk Evaluation Process And Risk Assessment Techniques
- Roles Of Health And Safety And Process Management Systems
- An introduction to the concepts of Layers Of Protection (LOPs)

## **Day 2 - Advanced Incident Analysis (Part 1)**

- Learning From Incidents – Review Of Case Studies
- Gas Leak & Explosion; Liquid Leak & Explosion; Pipe Failures
- A study of some large health and safety incidents
- Accident and Incident Analysis
- Incident Occurrences; Eye Witness Testimonies; Analysis Team
- Gathering Evidence; Expert Support; Incident Sequence
- Preliminary Causes; Root Cause Analysis; Human Factors
- Risk Control Recommendations; Analysis Report

## **Day 3 - Advanced Incident Analysis (Part 2)**

- Human Factors Environment
- Sensory And Perceptual Processes
- Individuals – Psychology And Differences
- Perception And Decision Making
- Human Error
- Improving Human Reliability

## **Day 4 - Advanced Risk and Incident Analysis Program**

- Development of the Bow Tie Method
- Incident Analysis using a series of case studies:
- PVC monomer safety fire and explosion
- Propylene Fire and Explosion
- Reactive Hazards Explosions
- A serious Ethylene Oxide Explosion
- A major oil refinery fire and explosion
- Incident Re-occurrence – Organizations Have No Memory

## **Day 5 - Advanced Risk and Incident Prevention Program**

- Emergency Response Analysis
- Management Of Change (MOC)
- Pro-Active Incident Prevention Measures
- Pre And Post Risk And Incident Management
- Key Points Summary