FERTILIZER ACADEMY

Knowledge hub for the Fertilizer industry

Course title:

Bowtie Analysis and Barrier-Based Risk Management

Hazard Visualisation & Protection Monitoring

Introduction:

The bowtie methodology is designed to provide the right level of detail to facilitate understanding and risk-based decision making, without oversimplifying a process.

This course reflects current industry good practice (CCPS Bow Tie In Risk Management - A Concept Book for Process Safety) and will help you better understand the methodology and how to conduct a bowtie analysis effectively in the management of process safety and environmental and asset integrity scenarios.

Visualizing critical & complex hazardous scenarios allows all stakeholders to better appreciate the context of their role and significance of the risk controls (often Safety Critical Elements or Tasks) for which they are responsible.

Duration 6 hours.

Course outline:

Lessons

1. Bowtie concepts and risk management
2. Bowtie development & workshops
3. Human Factors in bowtie analysis
4. Primary uses of bowties
5. Barrier monitoring
6. Learning from events
7. Other uses of bowties

Author(s) / Trainer(s):

David Hatch

Process Hazard Analyst,

David Hatch is an IChemE Professional Process Safety Engineer with 35 years' experience of major accident hazard facilities and design, operating and consulting roles in highly regulated industries including oil and gas, pharmaceuticals, energy and chemicals.

David is a Fellow of the IChemE and a member of the IChemE Safety and Loss Prevention Special Interest Group. He is a specialist in process hazard analysis and alarm management (an active contributor to the development of international Alarm Management (ISA.S18.2) and Human-Machine Interface (EEMUA 201) standards); authoring and presenting papers on these key subjects.

He has practical application experience of functional safety management principles including SIS specification and design and SIL verification in accordance with recognised international standards (IEC 61511). He is a Certified Functional Safety Expert (CFSE) and a TÜV Functional Safety Engineer (FSE).

David specialises in bowties and barrier-based risk management and analysis visualisation. He developed and delivers bowtie training for the IChemE and is a CGE Risk Certified Value Added Partner.

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Learning outcomes:

By the end of this training course, you will understand:

- when and why to use bowtie analysis
- individual bowtie components and how they are assembled to illustrate a scenario
- how to apply bowtie methodology
- how to facilitate and plan bowtie workshops
- bowtie analysis' interdependencies with other techniques
- the importance of monitoring & sustaining barrier (SCE) performance during operations, maintenance and modifications.

Who will benefit:

Anyone with a basic knowledge of the bowtie methodology but is seeking to become more expert in its application. The course would particularly benefit management, engineering and operations/maintenance personnel with responsibility for managing hazards and implementing/sustaining risk control measures.

Course materials:

- Hand-out presentation slides in PDF format

Price:

€ 700

Discounts:

- 2 places – 10% discount
- 3 places – 15% discount
- 4 or more places – 20% discount.

In-company training:

This course is also available as an in-company course (face-to-face or online) where content can be customised to meet your organisation's specific needs and delivered on a date/location that suits your requirements.

Contact us for more information.

Training code: PSM09