

# Asset Integrity Risk Management

## **Purpose**

The purpose of the course is to provide an in-depth understanding of the ways to manage major incident risk throughout the asset lifecycle, from concept selection through operations to decommissioning. The course walks through the essentials of risk as a concept, and explains the processes and tools that companies are using today to prevent major incidents. Industry case studies are used to illustrate key issues.

## **At the end of the course you will be able to**

1. Analyse the asset integrity risk management process throughout the asset lifecycle
2. Analyse the importance of assuring the integrity of engineered barriers (plant), competency of key personnel (people) and quality of procedures (processes) to prevent major incidents
3. Justify the approaches that are used to effectively reduce risks as low as reasonably practicable (ALARP)

## **Outline content**

Preventing major incidents by managing barriers

- 'Swiss cheese' model of accident causation
- 'Bowtie' barrier model (plant, people, processes)
- Fundamentals of risk management

Assuring plant performance

- Engineered barriers and performance standards
- Maintenance, inspection, testing
- Leading and lagging performance indicators
- Verification

Assuring people performance

- Human factors in design
- Competence
- Mindful leadership and process safety culture

Assuring processes performance

- Process Safety Management (PSM) framework, procedures and assessment
- Barrier-based audits
- Management review

Reducing risk to As Low As Reasonably Practicable (ALARP)

- Inherently safer design and risk control hierarchy
- Value assurance, tollgate reviews, safety case and technical risk and safety studies
- Risk treatment
- ALARP assessment

## **Recommended prior study**

Education, skills or experience equivalent to undergraduate level

## **Who should attend**

Anyone involved in, or who wants to understand better, the management of asset integrity in the oil & gas, petrochemical & chemical, and power generation industries; from discipline engineers, operations and maintenance personnel, to senior managers

## **Delivery Methods**

Face-to-face, Distance Learning, or Blended Learning

## **Levels of Assessment**

- Attendance only
- Assessment by Risktec
- Postgraduate Qualifications: PgCert, PgDip and MSc

## **Assessment details**

Postgraduate programmes: activities and assignment (total about 80 hours)

## **Module details**

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| Level:    | Masters                                    |
| Duration: | 2 days (F2F), or 8 weeks (Postgraduate DL) |

## **Price**

For prices and further information, or to book a course, please contact **Vicky Billingham** at [training@risktec.tuv.com](mailto:training@risktec.tuv.com)

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