



Inherent Safety in Design (ISD) Course for Chemical and Process Industries

This course is designed to help participants apply **Inherent Safer Design (ISD)** principles across the entire lifecycle of new developments, particularly in process and chemical plants. It covers all stages—from conceptual design, detailed engineering, and construction to commissioning, operations, and maintenance.

The course also explains why it matters to comply with WSH (Design for Safety) Regulations 2016. By leveraging real-world case studies and industry use cases, participants will gain the knowledge needed to proactively eliminate hazards at the earliest stages of project planning and design.

DURATION

2 Days

LANGUAGE

English

COURSE CODE

SM-30521

SDU Points

14 [CPD/323/T1.2/252504]

PDU Points

12

Inherent Safety in Design (ISD) Course for Chemical and Process Industries

Course Content

- Inherent safety in the process industry
- Risk reduction strategies during the planning and design of major projects in the process industry
- Application of Inherent Safer Design (ISD) principles and the hierarchy of risk controls
- Process hazard assessment (PHA) techniques such as What-if, HAZID, FMEA, HAZOP, Bow-Tie, LOPA
- Design Risk Assessment (DRA) process
- Inherent safer design (ISD) and Process Safety Management (PSM)
- ISD and WSH (Design for Safety) Regulations 2016
- Case studies & use cases
- Assessment

Who will benefit

- Process safety / design engineers
- Loss prevention specialists
- HSE professionals
- Plant / process engineers / technicians
- Maintenance & Project managers / engineers
- Staff responsible for design, commissioning, decommissioning, construction, O&M of plants
- Developers, consultants, QPs, designers, builders & contractors

Method of Study

Classroom training with group/individual exercises

Assessment & Certification

Certification will be issued to participant who attend the course and successfully complete the assessments.

Trainer

Er. R K Jaggi is a Professional Chemical Engineer, a DfS Professional and WSHO Officer with nearly 40 years HSE and engineering experience mainly in the process and oil & gas in S'pore and abroad.

He has extensive experience in developing and maintaining PSM, leading PHA and Hazop studies, and facilitating DfS reviews; making him a credible and trusted authority in mitigating risks in the process industry.

Jaggi will also be sharing practical tips and actionable insights, equipping participants with the skills needed to effectively implement Hazop in their workplaces.

Learning Outcomes

By the end of this 2-day training, participants will be able to:

- Recognise the importance of ISD and to proactively eliminate HSE hazards throughout the different lifecycle of a project
- Appreciate the various PHA techniques commonly used in process and chemical industry
- Understand the WSH (Design for Safety) Regulations and related legislations
- Consider ISD principles to ultimately design an inherently safer plant to operate and maintain
- Apply hazard identification tools and carry out design risk assessments

In-company Deliveries

- This course is available for in-company delivery, either on-site or online. Content can be tailored to your specific requirements. Request a quotation.

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