MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

TECHNICAL SAFETY MANAGEMENT

"Mitigating Operational Risks Through Systematic Safety Engineering and Risk Control Strategies"

Schedule

Date	Venue	Fees
20 – 24 Apr 2026	London, UK	USD 3495 per delegate

► **Available delivery methods:** Face-to-Face & Online Training, In-House Training

Introduction

In high-risk industries such as oil & gas, energy, chemicals, and infrastructure, technical safety management is critical to preventing major accidents, protecting assets, and ensuring operational continuity. Effective safety management relies on a structured approach to hazard identification, risk assessment, engineering controls, and safety assurance.

This intensive course equips professionals with the knowledge and tools to design, implement, and audit technical safety management systems aligned with international standards and best practices. Through a blend of engineering principles and risk management strategies, participants will be prepared to lead safety efforts across design, operations, and project phases.

Objectives

By the end of this course, participants will be able to:

- Understand the core components of technical safety management
- Conduct hazard identification and risk assessments using formal methods (HAZOP, HAZID, LOPA)
- Design and evaluate safety barriers and control measures
- Apply safety integrity levels (SIL) and layers of protection analysis (LOPA)
- Ensure regulatory and operational compliance through safety case development and audits

MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

Why Attend

- Learn how to integrate technical safety from project design through to operation
- Ensure compliance with international safety regulations (API, IEC, ISO)
- Reduce risk of catastrophic failure, injury, and environmental damage
- Develop robust safety cases and participate in audits confidently
- Enhance organizational resilience and risk visibility

Target Audience

This program is designed for:

- Technical safety engineers and process safety professionals
- Project and design engineers involved in high-risk facilities
- HSE managers, advisors, and compliance officers
- Risk analysts and asset integrity professionals
- Operations and maintenance team leads in hazardous industries

Individual Benefits

Key competencies that will be developed include:

- Use of structured hazard and operability techniques
- Understanding of safety lifecycle and SIL verification
- Risk-based decision-making in design and operation
- Development of safety cases and assurance documentation
- Ability to lead or participate in safety studies and technical reviews

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved ability to identify, analyze, and mitigate technical safety risks
- Compliance with national and international regulatory frameworks
- Reduced likelihood of major incidents through structured barrier management
- Enhanced capability in safety reporting, audit preparation, and documentation
- Strengthened safety culture and engineering accountability

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Safety lifecycle concepts, regulatory frameworks, and design standards
- Case Studies – Past incidents, lessons learned, and system gaps
- Workshops – HAZOP sessions, barrier models, SIL calculations
- Peer Exchange – Industry-specific challenges and technical safety solutions
- Tools – Risk matrices, safety case templates, LOPA charts, and audit checklists

MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

Course Outline

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Foundations of Technical Safety Management

- Module 1: Overview of Technical Safety and Regulatory Frameworks (07:30 – 09:30) • Definitions, safety lifecycle, major hazard industries
- Module 2: Key Standards and Guidelines (09:45 – 11:15) • API, IEC 61508/61511, ISO 45001, COMAH, OSHA PSM
- Module 3: Organizational and Functional Safety Roles (11:30 – 01:00) • Roles of engineers, operators, and safety teams
- Module 4: Workshop – Facility Hazard Mapping (02:00 – 03:30) • Identify critical equipment and hazard sources

Day 2: Hazard Identification and Risk Assessment

- Module 1: Formal Hazard Study Techniques (07:30 – 09:30) • HAZID, HAZOP, What-If, FMEA overview
- Module 2: Risk Assessment and Risk Matrices (09:45 – 11:15) • Severity, likelihood, consequence modeling
- Module 3: Layers of Protection Analysis (LOPA) (11:30 – 01:00) • Safeguards, initiating events, independent protection layers
- Module 4: Workshop – Conducting a Sample HAZOP (02:00 – 03:30) • Breakout sessions with guided team exercise

Day 3: Safety Integrity Levels (SIL) and Engineering Controls

- Module 1: SIL Determination and Lifecycle Management (07:30 – 09:30) • SIF design, SIL rating, verification process
- Module 2: Design and Evaluation of Safety Barriers (09:45 – 11:15) • Physical, procedural, and automated controls
- Module 3: Alarm Management and Human Factors (11:30 – 01:00) • Designing operator interfaces, error reduction strategies
- Module 4: Workshop – SIL Calculation Simulation (02:00 – 03:30) • Calculate required risk reduction using LOPA

Day 4: Safety Case Development and Risk Communication

- Module 1: Elements of a Safety Case (07:30 – 09:30) • Facility description, hazard registers, ALARP demonstration
- Module 2: Bowtie Analysis and Barrier Visualization (09:45 – 11:15) • Linking causes, consequences, and controls
- Module 3: Communication with Stakeholders and Regulators (11:30 – 01:00) • Presenting technical safety data clearly and credibly
- Module 4: Workshop – Drafting a Safety Case Outline (02:00 – 03:30) • Assemble a simplified safety case structure

Day 5: Auditing, Incident Learning & Final Review

- Module 1: Safety Audits and Assurance Processes (07:30 – 09:30) • Planning, execution, and reporting of safety audits
- Module 2: Incident Investigation and Root Cause Analysis (09:45 – 11:15) • Case review using 5 Whys and fault tree analysis
- Module 3: Final Case Study – Integrated Safety Management Review (11:30 – 01:00) • Team-based review of a mock facility
- Module 4: Wrap-Up and Certification (02:00 – 03:30) • Course summary, feedback, and certificate distribution

Certification

Participants will receive a Certificate of Completion in Technical Safety Management, validating their ability to manage, assess, and enhance technical safety systems across complex industrial operations in accordance with international best practices.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

In-House / Customized Training Interested in running this course for your team? Please contact us:	TEL: **+601116373203**	EMAIL: **info@mawaevents.net**

© Material published by MAWA Events shown here is copyrighted. All rights reserved. Any unauthorized copying, distribution, use, dissemination, downloading, storing (in any medium), transmission, reproduction or reliance in whole or any part of this course outline is prohibited and will constitute an infringement of copyright.