HAZOP Study Leadership and Process Hazard Review Training Course

27 – 31 December 2026
Zoom

HAZOP Study Leadership and Process Hazard Review Training Course

Ref: 104_14013 **Date:** 27 – 31 December 2026 **Location:** Zoom **Fees:** 1700 GBP

Programme Summary

HAZOP study leadership and process hazard review is a one-week training course for senior process safety and operations leaders, culminating in a HAZOP governance and quality improvement plan for their own facility. HAZOP value depends on how well studies are scoped, chaired, recorded and followed through. The approach connects study preparation, session leadership, safeguard challenge and action close-out with layers of protection and change control. Mars Training Centre UK delivers this programme in HAZOP study leadership and process hazard review.

The Business Case

A HAZOP that is rushed, poorly chaired or left with open recommendations gives management false assurance about major-accident risk. Leaders who set clear terms of reference, test safeguard independence and drive actions to closure make the study a reliable basis for design and operating decisions.

- Major-Accident Risk Exposure: Falls as credible deviations are identified and matched with independent, verified safeguards.
- Recommendation Close-Out Rate: Improves as actions carry owners, risk ranking and tracked verification.
- Project and Turnaround Schedule Certainty: Rises as hazard reviews are scoped and resourced before design freeze.

Principles and Evidence Base

- IEC 61882 Hazard and Operability Studies Application Guide: Sets the study stages and roles applied in Session 1 and Session 2.
- CCPS Guidelines for Hazard Evaluation Procedures: Place HAZOP among other hazard analysis methods in Session 1.
- Layer of Protection Analysis LOPA: Tests safeguard independence and credibility in Session 3.
- IEC 61511 Functional Safety: Links HAZOP scenarios to safety instrumented functions and SIL targets reviewed in Session 3 and Session 4.

Intended Participants

- Leaders who appoint HAZOP chairs and approve the scope and timing of hazard studies.
- Managers who chair or sponsor HAZOP sessions for new projects, modifications and revalidations.
- Technical authorities who sign off safeguards, safety instrumented functions and design changes.
- Heads of operations accountable for closing study recommendations and maintaining the process safety record.

The programme serves oil and gas production, refining and petrochemicals, chemical manufacturing and power and water utilities.

Learning Outcomes

1. Participants will be able to construct HAZOP terms of reference, node breakdowns and team compositions that suit the study purpose.
2. Participants will be able to direct HAZOP sessions so that guidewords, deviations, causes and consequences are explored with discipline.
3. Participants will be able to evaluate the credibility and independence of safeguards against layer of protection principles.
4. Participants will be able to prioritise recommendations by risk and assign owners, evidence and close-out criteria.
5. Participants will be able to diagnose weaknesses in completed HAZOP worksheets through a structured quality review.
6. Participants will be able to justify how HAZOP outputs feed LOPA, SIL determination and management of change.

Programme Structure

Day 1: HAZOP Study Foundations and Terms of Reference

What must be decided before the first HAZOP session begins?

- Process Hazard Analysis Methods Compared
- IEC 61882 Study Stages and Roles
- Terms of Reference and Study Boundaries
- Node Selection and Design Intent Statements
- Information Readiness: P&IDs, Cause and Effect Charts and Operating Procedures

Day 2: Chairing HAZOP Sessions

How does a chair keep a multidisciplinary team rigorous and productive?

- Guidewords, Parameters and Meaningful Deviations
- Cause and Consequence Reasoning Without Credit for Safeguards
- Managing Team Dynamics, Dominance and Fatigue
- Scribe Practice and Worksheet Recording Standards

- Handling Batch, Start-Up and Shutdown Modes

Day 3: Safeguards, Risk Ranking and Protection Layers

Which safeguards can genuinely be relied upon, and how is residual risk judged?

- Risk Matrices and Severity Calibration
- Independent Protection Layer Criteria
- Layer of Protection Analysis Handover
- Safety Instrumented Functions and SIL Targets Under IEC 61511
- Bow-Tie Representation of High-Consequence Scenarios

Day 4: Recommendation Close-Out and HAZOP Quality Review

How are HAZOP findings turned into verified risk reduction, and how is study quality assured?

- Writing Specific, Testable Recommendations
- Action Tracking, Ownership and Verification Evidence
- HAZOP Quality Review Checklists and Peer Challenge
- Revalidation Cycles and Management of Change Triggers
- Lessons From Major Process Incidents

Day 5: Applying HAZOP Governance at Site Level

How do preparation, chairing, safeguard review and close-out combine into one governance plan?

- Assessment of a Participant HAZOP Worksheet
- Chair Competence and Study Resourcing Model
- Integration With Project Stage Gates and Turnarounds
- Peer Challenge of Governance Proposals
- HAZOP Governance and Quality Improvement Plan Presentation

Methodology

The programme relies on simulation supported by case analysis. Participants chair and record mock HAZOP sessions on process drawings drawn from upstream, refining and chemical facilities and review completed worksheets against quality criteria.

- Suggested activity: Chairing a timed HAZOP node on a heat exchanger and separator system.
- Suggested activity: Testing listed safeguards against independent protection layer criteria.
- Suggested activity: Rewriting vague recommendations into verifiable actions.

Capstone Output

Each participant completes a HAZOP governance and quality improvement plan for their facility. It sets scoping rules, chair competence, worksheet quality criteria, safeguard review practice, recommendation tracking and revalidation triggers for approval by the site process safety committee.

Frequently Asked Questions

Is HAZOP study leadership suitable for leaders who have only taken part in studies as team members?

Yes. It assumes participation in at least one hazard study and familiarity with process drawings, and builds the chairing and governance judgement needed to lead HAZOP studies.

Which standards underpin HAZOP study leadership and process hazard review?

It rests on the IEC 61882 application guide, the CCPS guidelines for hazard evaluation procedures, layer of protection analysis and IEC 61511 functional safety for safety instrumented functions.

How is the HAZOP governance and quality improvement plan used at work?

You take back a plan your process safety committee can adopt, setting rules for scoping, chairing, worksheet quality and recommendation close-out.

How does HAZOP study leadership differ from a general process safety management programme?

It concentrates on running and assuring hazard and operability studies rather than every element of a process safety management system.