CONCEPT

HAZOP Study Leadership and Facilitation: Chairing, Scribing and Reviewing Studies

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Introduction:

HAZOP studies lose their value when nodes are drawn loosely, deviations are rushed, safeguards are credited without challenge and recommendations are too vague to close. This Core Concept course prepares process safety engineers to lead HAZOP studies as the IEC 61882 application guide describes them: defining scope, preparing P&IDs and nodes, applying guide words and parameters, chairing the team, recording deviations, causes, consequences and safeguards, ranking risk and writing actionable recommendations. Working on continuous, batch and procedural cases, participants produce a HAZOP Study Leadership Pack with terms of reference, node register, worksheet extract and quality review checklist.

Course Objectives:

- Define HAZOP study scope, terms of reference and design intent in line with the IEC 61882 application guide
- Divide P&IDs into nodes and apply guide word and parameter combinations to generate credible deviations
- Record causes, consequences and safeguards and rank scenarios with a calibrated risk matrix
- Chair and scribe HAZOP sessions while managing time, team roles and group dynamics
- Adapt the method to procedural, batch and revalidation studies and select scenarios to hand over to LOPA
- Review HAZOP reports for quality and drive recommendations through to verified close-out

Target Audience:

- Process safety engineers who plan and take part in hazard and operability studies
- Engineers preparing to chair HAZOP sessions for projects or operating units
- Technical safety and loss prevention engineers who review HAZOP deliverables
- Process and operations engineers who bring design and operating knowledge to HAZOP teams
- Engineers who record HAZOP sessions and maintain the resulting action registers

Course Outline:

Day 1: HAZOP Study Purpose, Scope and Current Practice

- IEC 61882 Application Guide: Study Definition, Preparation, Examination and Follow-Up
- HAZOP Compared with What-If, Checklist and FMEA When Choosing a Study Type
- HAZOP Terms of Reference: Scope, Boundaries, Objectives and Design Intent
- Study Leader Independence and Experience Expectations Checklist
- Weaknesses Audit of Existing HAZOP Reports from Participants' Sectors

Day 2: Guide Words, Parameters and Worksheet Logic

- Node Selection and P&ID Mark-Up for Continuous Process Units
- Guide Word and Parameter Matrix: No, More, Less, As Well As, Part Of, Reverse, Other Than
- Deviation, Cause, Consequence and Safeguard Worksheet Logic
- Risk Matrix Calibration: Severity and Likelihood Ranking of Unmitigated Scenarios
- Recommendation Writing with Specific, Owned and Verifiable Action Statements

Day 3: Chairing, Scribing and Team Management

- HAZOP Team Composition: Leader, Scribe, Design, Operations and Maintenance Roles
- Chairing Techniques: Questioning, Challenging Assumed Safeguards and Reaching Consensus
- Scribing Practice with HAZOP Recording Software and Parking Lot Logs
- Session Time Planning: Node Time Budgets and Daily Progress Tracking
- Group Dynamics: Dominant Voices, Silent Experts and Fatigue Management

Day 4: Procedural, Batch and Revalidation Studies

- Procedural HAZOP of Start-Up, Shutdown and Manual Operating Steps
- Batch HAZOP Using Phase-by-Phase Recipe and Sequence Nodes
- HAZOP Revalidation: Prior Study Review, Change History and Incident Inputs
- Handing Scenarios to LOPA: Interface Criteria and Data Carried Forward
- Utility Failure, Common Cause and Human Error Scenarios in HAZOP Sessions

Day 5: Chaired Case Work and the HAZOP Study Leadership Pack

- Continuous Unit Case: Chaired HAZOP Session on a Separator Node
- Batch Reactor Case: Scribed Worksheet and Risk Ranking Exercise
- HAZOP Report Quality Review Checklist Applied to a Sample Report
- Action Close-Out Tracking Register and Verification Evidence Criteria
- HAZOP Study Leadership Pack Assembly and Peer Challenge Review

Skills You Will Gain:

- Study Scoping and Node Definition
- Deviation Analysis
- Scenario Risk Ranking
- Session Facilitation
- Technical Scribing
- Recommendation Drafting
- HAZOP Report Quality Review
- Action Close-Out Management

Why Attend This Course:

- Return with a HAZOP Study Leadership Pack containing terms of reference, node register, worksheet extract and quality review checklist
- Practise chairing and scribing case sessions with direct feedback from peers
- Spot wrongly credited safeguards and vague recommendations before a report is issued
- Compare HAZOP practice with engineers from oil and gas, chemicals, utilities and batch manufacturing

Conclusion:

A HAZOP study is only as good as its preparation, its chairing and its record. The course moves from study definition and node preparation, through guide words, worksheet logic and risk ranking, to chairing, scribing and managing the team, then extends the method to procedural, batch and revalidation studies and the interface with LOPA. The final day applies that material in chaired and scribed cases, producing a HAZOP Study Leadership Pack ready for use on the next study.