COURSE BROCHURE

HAZOP Studies for Process Hazard Analysis

An advanced course that equips participants to contribute fully to HAZOP studies and to lead sessions, from node selection and guidewords through to recommendations and their close-out.

Code	HT-HSE-111
Category	Health, Safety & Environment
Duration	1 week
Level	Advanced
City	London

Introduction

Many major accidents in oil, gas and petrochemical plants were preceded by a deviation from operating conditions that could have been foreseen on paper. HAZOP is among the most widely used methods for finding such deviations before start-up and at every modification, and its quality depends on the team and its leader.

Objectives

- Place HAZOP within the process safety life cycle and compare it with HAZID, What-If and FMEA
- Prepare a study: terms of reference, team selection, documents and node breakdown
- Apply guidewords to process parameters to generate deviations and analyze their causes and consequences
- Judge the adequacy of safeguards, rank risk on a risk matrix and write actionable recommendations
- Lead a HAZOP session, manage discussion and time, record results and track recommendations to closure

Who should attend

- Process and process safety engineers
- Operations, maintenance, instrumentation and control engineers
- Design engineers at engineering companies and EPC contractors
- Prospective HAZOP leaders and scribes

Skills you will develop

- Reading P&IDs for hazard analysis
- Guideword-based deviation analysis
- Facilitating multidisciplinary technical sessions
- Writing recommendations and documenting a study

Learning Outcomes

- Divide a P&ID into nodes and write the design intent for each
- Complete a HAZOP worksheet with specific causes and consequences assessed as if no safeguard acts
- Tell an effective independent safeguard from a procedure that cannot be relied on alone
- Produce a study report and a recommendation register with an owner and due date for every item

Course Outline

Day 1: HAZOP within Process Safety Management

- Process hazard analysis methods and when to use HAZOP, HAZID, What-If or FMEA
- Terms of reference, team composition and the roles of leader, scribe and members
- Required documents (P&IDs, PFDs, cause and effect matrix, material data) and the principles of node selection

Day 2: The Method Step by Step

- Design intent, parameters and guidewords such as No, More, Less, Reverse and Other Than
- Finding causes inside the node and following consequences beyond it without credit for safeguards
- Listing safeguards and ranking risk on a matrix, with an exercise on a separator feed line node

Day 3: Special Cases and Leadership Skills

- Batch and procedural operations, start-up, shutdown and maintenance modes
- CHAZOP for control systems, human factors, and the rule on excluding independent double failures
- Managing discussion and time and keeping the team from redesigning the plant in the session

Day 4: Recording, Follow-Up and Links to Other Studies

- The worksheet, full recording versus recording by exception, and writing a clear, verifiable recommendation
- The recommendation register, close-out tracking, periodic revalidation and the link to management of change
- Selecting scenarios to pass to LOPA and to SIL determination for safety instrumented functions

Day 5: Full Study Workshop

- Assigning roles and preparing a study of a three-phase separation unit with export pumps
- Running the session on at least two nodes, rotating leader and scribe
- Applied project in which each team produces the study report and recommendation register and presents them for critique

Training methodology

Worked nodes on P&IDs of a separator, a gas compressor and a heat exchanger
Simulated sessions with participants rotating as leader and scribe
Critical review of weak worksheets to pinpoint what went wrong
Focused presentations and cases drawn from published industrial accidents

Certification

Participants receive a Harbor Training Center certificate of attendance on completing the course.

Upcoming dates

City	Dates	Language	Fee
London	5 – 9 July 2027	EN	EUR 5,800

Fees are per participant.

Contact us

Email info@harbor4training.com

Address istanbul Turkey

To register and for details, scan the code or visit:

https://harbor4training.com/en/courses/hazop-studies