Email: info@gatewayconsulting.com | Phone: +96522968641
https://gatewayconsulting.com

SIMULATION-BASED PROCESS HAZARD ANALYSIS (PHA)

Start Date:	15/02/2027	**End Date:**	19/02/2027
Categories:	Oil & Gas	**Venues:**	Paris
Formats:	In Person	**Instructors:**	

OVERVIEW

This course explores how simulation tools can be integrated into Process Hazard Analysis (PHA) to enhance hazard identification, consequence analysis, and scenario evaluation. It bridges simulation with HAZOP, LOPA, and emergency response planning.

OBJECTIVES

By the end of this course, participants will be able to: • Integrate simulation into traditional PHA methods. • Visualize process deviations and consequences using dynamic tools. • Model safety systems and validate design assumptions. • Analyze emergency scenarios and response effectiveness. • Improve documentation and team collaboration in PHA studies.

COURSE OUTLINE

1. PHA Overview and Simulation Integration Points 2. Deviation Modeling and Dynamic Visualization 3. Validating Safety Systems Through Simulation 4. Emergency Response Simulation and Scenario Analysis 5. Enhancing PHA Output Quality and Team Engagement

TARGET AUDIENCE

PHA facilitators, process safety engineers, simulation analysts, and HSE professionals enhancing risk studies with dynamic tools.

METHODOLOGY

Dynamic PHA labs, scenario walkthroughs, emergency simulation workshops, and digital documentation exercises.

CONCLUSION

Participants will be able to apply simulation to improve PHA depth, clarity, and scenario-based decision-making.

DAILY AGENDA

Day 1: Introduction to PHA and Simulation Tools

Establishing foundations for HAZOP, LOPA, and integrating digital tools.

Day 2: Deviation and Failure Scenario Modeling

Building models for leak, pressure, temperature deviation, and operator error.

Day 3: Safety System Validation with Simulation

Testing instrumented protection, relief devices, and shutdown logic.

Day 4: Emergency Simulation and Case Studies

Simulating critical incident response using dynamic tools.

Day 5: PHA Reporting and Engagement Tools

Improving documentation, audit readiness, and team participation.

For more information, please contact us:
Email: info@gatewayconsulting.com | Phone: +96522968641
https://gatewayconsulting.com