



Hazard Evaluations (PHA, HAZOP and LOPA)

Our process safety and risk assessment portfolio extends from onshore to offshore and upstream to downstream. Studies may be performed on a stand-alone basis or as part of an integrated strategy, combined with other service offerings.

Siemens facilitates and supports Process Hazard Analysis (PHA), Hazard and Operability (HAZOP) and Layers of Protection Analysis (LOPA) studies worldwide. We have experienced facilitators, scribes and participants who have extensive knowledge of industry standards and codes to assist the client in identifying and resolving potential safety and operability hazards, as well as major items that may affect the project's detailed design, schedule or cost. We have an extensive knowledge of industry standards and codes, such as 29 CFR 1910.119, API 14C/14J and API RP 75.

Our core capabilities include:

- PHA and revalidation
 - Facility citing studies
 - Human factors analyses
 - What-if analyses
 - Checklist reviews
- Hazard and Operability (HAZOP) studies
- Conceptual design risk assessments (CDRA)
- Layers of protection analyses (LOPA)
- Safety integrity level (SIL) reviews
- Hazard identification studies

We use industry standard software, and we can use other third-party or client packages as needed.

Siemens has a standard execution philosophy for all studies and projects:

- Define the scope of work with the client's PHA team coordinator
- Prepare study charter and agenda
- Ensure proper team discipline representation
- Prepare for study execution
- Post-study, follow-up and preparation of the final report

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The information in this document contains general descriptions of the technical options available, which may not apply in all cases. The required technical options should therefore be specified in the contract.



For more information about this and other professional consulting services, contact us at 1 (800) 658-8809 or +1 (713) 570-2900 or info.ogm@siemens.com.