

Process Hazard and Risk Assessment

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Safety studies are a requirement on virtually every project and facility. Process Hazard Analysis (PHAs) are part of most operators' process safety programs and project requirements and are a best practice throughout the world as a cornerstone of process safety, even when not mandated by law.

Hazards identification, analysis, and risk assessments are performed throughout a facility's lifecycle, from conceptual design, FEED (Front End Engineering Design), detailed design, and fabrication/construction/commissioning through operation.

A key component of regulatory compliance PHAs address:

- Hazards of the process, initiating events, consequences, and safeguards
- Human factors
- Previous incidents
- Facility siting
- Engineering and administrative controls and their interrelationship
- Management of Change (MOC) issues
- Qualitative evaluation of a range of possible safety and health effects on all employees in the workplace

PHAs are performed on individual processes (such as hydrocracker, cat cracker, crude unit, etc.) and typically include the processing or handling of flammables, toxic, combustibles, and other highly hazardous chemicals or applications.

Siemens Energy Solutions

Our process safety consultants identify hazards through experience with pressure relief analysis, Management of Change consulting, mechanical integrity work, and PHA facilitation. On top of that, we have an extensive background of facilities, companies, and industries to facilitate process hazard analyses. This breadth of knowledge allows the facilitators to gain insight into new approaches and best practices for PHA facilitation.

Value to Customer

A process hazard analysis performed results in superior PHA documentation. Our customers receive an integrated solution to resolve process hazard analysis findings by implementing a wide range of process safety management best practices. Incorporating pressure relief analysis, mechanical integrity, Management of Change, layer of protection analysis, or safety integrity level analysis results in a holistic resolution to even your most complicated issues.

Alleviate time and expertise requirements from your plant engineers, giving them the time and attention they need to complete the work they are uniquely qualified to perform.

Additional insight and best practices gained from industry experience. Our PHA facilitators are trained in asking the right questions and integrating different (and sometimes conflicting) perspectives from multiple team members during a PHA, potentially reducing time to resolve complex issues and streamline action items.

Services

- Process Hazard Analysis facilitation and/or Scribe
 - P&IDs field verification
 - Preparatory services
 - Reporting
 - Training
- PHA Revalidation
- HAZOP (Hazard and Operability) Analysis
- What-if/Checklist reviews
- LOPA (Layers of Protection) Analysis
- SIL (Safety Integrity Level) Verification
- Action items resolution for PHA concerns
- Gap closure of Process Safety Information (PSI) documentation
- Other engineering services

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