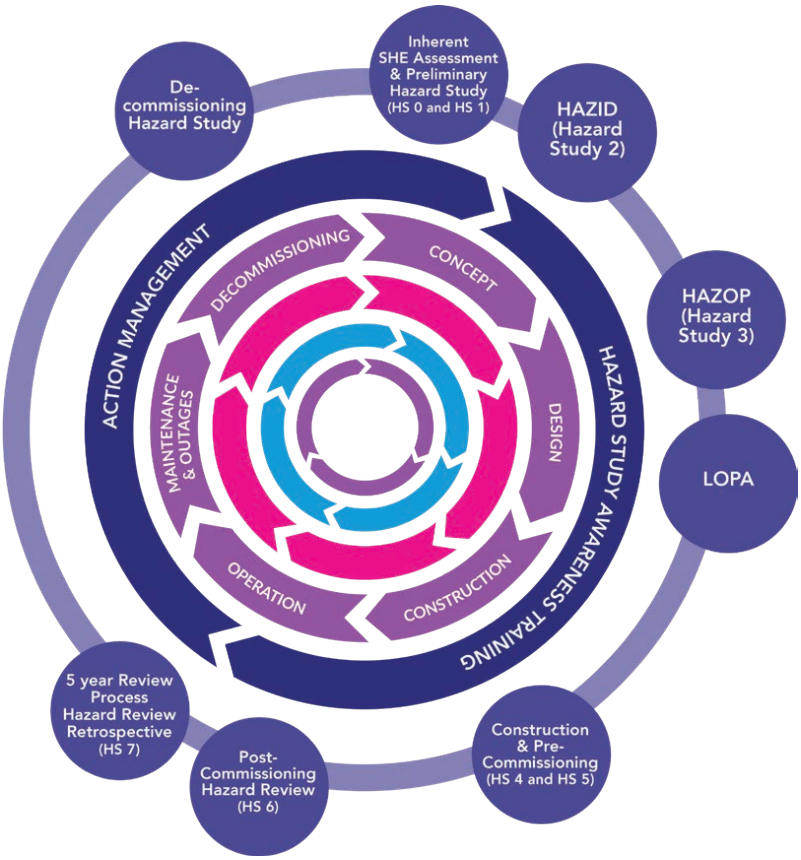
Process Safety: Process Hazard Assessments

Process Hazard Assessments are systematic techniques used for hazard identification and risk assessment.

Process Hazard Assessments (PHA) aim to identify the potential causes and evaluate the consequences of unmitigated process hazards. The assessment should document current prevention, protection and mitigation measures as well as identifying any further improvements to reduce the risk to ALARP. PHAs are methodical and structured assessments carried out by multi-disciplinary teams using a set of guide words.

PHA techniques can be applied at all stages of an asset's life, to evaluate the hazards associated with its operations and maintenance, whether during feasibility, design, construction, commissioning, operation, or decommissioning. Using the most appropriate PHA methodology can facilitate pragmatic and effective design decisions.

PHA techniques include, What If?, Failure Mode and Effects Analysis (FMEA) and the two most commonly used techniques, Hazard Identification (HAZID) and Hazard & Operability (HAZOP).



AXIOM

MAXIMISING ASSETS - MINIMISING RISKS

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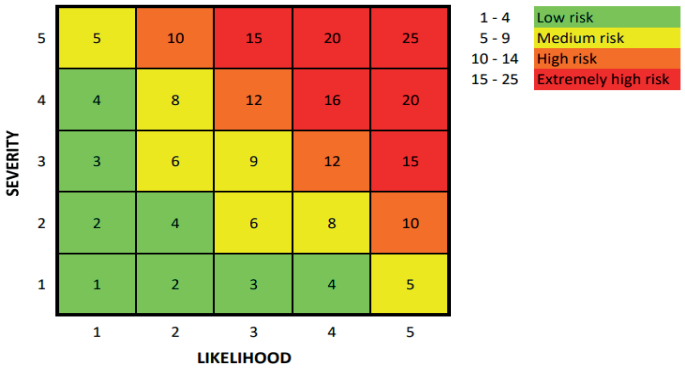
How can AXIOM help with this service?

Services – AXIOM can provide support in identifying the appropriate process hazard assessment methodology for your project. AXIOM can provide competent people with experience specific to your industry to lead, scribe and support:

- Inherent SHE Assessment
- Hazard Identification (HAZID)
- Hazard & Operability Study (HAZOP)
- Layers of Protection Analysis (LOPA)
- Pre-commissioning & Commissioning safety review
- Process Hazard Review
- Verification and revalidation of hazard studies
- Retrospective Process Hazard Assessment
- Process Hazard Assessment Action management and close out

Approach – AXIOM follow the guidelines provided in BS EN 61882 Hazard and Operability Studies (HAZOP studies), IChemE HAZOP Guide to Best Practice, specific industrial guidance or individual company standard.

Capabilities – AXIOM combines technical expertise with operational experience to develop pragmatic and effective solutions. AXIOM has Process Hazard Assessment experts with vast knowledge and experience working in high hazard and upper tier COMAH sites.



Benefits of a Process Hazard Assessment

The benefits of performing process hazard assessment include:

- Identification of major accident hazards and major accidents to the environment
- Determine the appropriate layers of protection to reduce the likelihood of the hazard and mitigate consequences.
- Provide justification for additional risk reduction measures to be implemented
- Informs decision for selecting the safest design and minimises late design changes, reducing costs
- Provides information to develop an understanding of residual risk profile
- Supports the development and maintenance of the COMAH safety report.

Contact us

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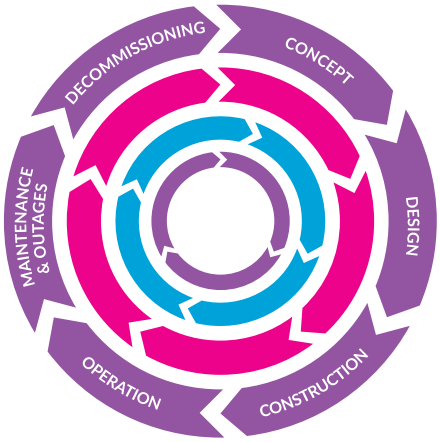

Supporting the Asset Life Cycle