



Provenance Consulting has extensive experience with hazard identification, evaluation, and mitigation services. Understanding accurate application of risk tolerance criteria is critical for our clients to properly steward their resources. We recognize applying the most appropriate risk identification and evaluation techniques is critical to a successful study. Provenance has facilitated Process Hazard Analyses (PHAs) for many oil and gas processing technologies, as well as many specialized chemical processes unique to specific clients. The quality and comprehensiveness of each risk study drives many other aspects of your overall Process Safety Management (PSM) program – our facilitators perform every study with this in mind.

Since Provenance's inception, our team of dedicated facilitators has completed hundreds of PHAs, Layers of Protection Analysis (LOPA), and other hazard evaluation studies. From nearly every sector, Provenance has worked with some of the largest companies in the petrochemical industry. Additionally, we are well-versed in how to apply PHAs to the life-cycle stage of a plant – including design, startup, projects, initial unit PHAs, unit revalidations, and decommissioning studies.

PHA TECHNIQUES

- Hazard and Operability Studies (HAZOP)
- Layers of Protection Analysis (LOPA)
- Failure Mode and Effects Analysis (FMEA)
- What-If Studies
- Project PHAs

SERVICES PERFORMED

- Preparatory Services
- Facilitation and Scribing
- Reporting
- Training
- Revalidation Services
- Action Item Resolution
- QA/QC Services

SOFTWARE EXPERTISE

Provenance has extensive experience in multiple commercial software applications including:

- PHA-Pro®
- PHAWorks®
- PHA Leader™
- Client-specific Spreadsheet and Custom Database Applications

Provenance does not have a vested interest in any particular PHA software program, allowing us to help clients select the most appropriate and cost effective tool for their study.

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