

Provenance Consulting has relief system design experience in all aspects of the petrochemical industry. The relief systems documentation at any facility is critical to its continued safe operation, and Provenance approaches each evaluation with this importance in mind. Additionally, our implementation and documentation practices are executed with a focus on long-term utilization. We recognize that our deliverables will be used at all levels of an organization, and our appreciation of this fact guides our documentation and execution practices. Provenance ensures adherence to relief system industry codes, standards, and practices, as well as client specific guidelines.

Our **RELIEF SYSTEM SERVICES** include the following:

- Engineering Design
 - New and Existing Installations
 - Preliminary or Conceptual Design
 - Design Correction
 - Detailed Engineering Design
- Pressure Relief Analysis and Revalidation
 - Overpressure Identification, Rate Quantification, and Relief Device Adequacy
 - Ensure Client Documentation is Current and Compliant with OSHA PSM Standard
- Flare and Disposal System Evaluation
 - Disposal Header Hydraulics Evaluation
 - Global Overpressure Identification
- Process Simulation
 - Simple Unit Operation or Complex Process Units
- Onsite Engineering Support or Remote Execution
- Third-party Audits

SOFTWARE EXPERTISE

Provenance has extensive experience in multiple commercial software applications including:

- Pressure Protection Manager™
- iPRSM®
- SuperChems™ and ioXpress™
- Client-specific Spreadsheet and Custom Database Applications

To further support the relief system design efforts, Provenance can perform equipment and unit modeling in the following software:

- Aspen Plus®
- HYSYS®
- Flare System Analyzer®
- Promax®
- VisualFlow

Provenance does not have a vested interest in any particular relief system design or process modeling software program, allowing us to help clients select the most appropriate and cost effective tool for their relief system design needs.

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