

# Relief & Disposal System

Trusted advisor for your last line of protection

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Pressure relief incidents come at an enormous cost – not only to your business, but to workers and nearby communities. OSHA, EPA, and other regulatory bodies make it even more critical that your plant complies with existing safety standards. Corporate safety initiatives, acquisitions, or capital projects can make it difficult to stay on top of the changes in your plant and how each change may impact your relief and disposal system. On top of that, our project experience shows that 40% of installed relief devices may have a deficiency.

## Siemens Energy Solutions

We have been helping customers succeed in designing, evaluating, and revalidating plant overpressure systems for over 20 years. Our consultants have developed and delivered leading methodologies and best practices adopted as corporate standards by various operating companies and validated by OSHA. Our approach examines the critical relationships between equipment and relief devices, calculating the required relief rates and relief capacity, and documenting deviations from industry standards and practices.

Based on your requirements, we can also develop prioritized action plans including risk assessments, backup calculations, and order-of-magnitude cost estimates, if modifications are required.

With more than 4,000 studies conducted worldwide, we offer a best-in-class approach, expertise, and powerful software to analyze, design, document, and manage your relief systems. And because experience has shown us what to look for, we perform plant-wide audits quicker and more efficiently, with minimal disruption to your operations.

## Value to Customer

- Improved process safety
- Up-to-date relief system documentation in a central database — easily accessible and to maintain
- Peace of mind knowing that your relief system has been thoroughly reviewed
- Reduced risk of loss of life, downtime, lost production, or lost profit
- Increased efficiency in executing MOCs, HAZOPs, or PHAs
- Potential reduction in insurance or maintenance cost

## Services

- Pressure Relief Analysis, verifying overpressure protection of process equipment and adequacy of existing pressure relief devices
- Flare/vent system analysis of closed (i.e. flare) and atmospheric disposal system analysis
- Pressure relief valve and flare design verification
- Engineering analysis of pressure relief valve operation stability
- Depressuring modeling
- Quantitative Risk Analysis (QRA) on flare systems
- Disposal system mitigation planning and atmospheric relief devices tie-in to closed disposal system mitigation
- Gas dispersion modeling
- Flare radiation modeling
- Resolution for PHA concerns related to relief/flare issues
- Gap closure for relief device documentation
- Develop heat and material balance and process basis of process units
- Dynamic simulations of column and flare systems
- Audit pressure relief systems management processes
- Process unit throughput analysis
- Development and critical review of pressure relief analysis practices

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