

# Risk Assessment & Evaluation Support



SPEC Engineering provides support services and leadership guidance for clients in the areas of Process Hazard Analysis (PHA), pipeline safety management, and quantitative risk assessments. SPEC supports client facility compliance with OSHA 29 CFR Part 1910.119 – Process Safety Management (PSM) of Highly Hazardous Chemicals, with expertise in the 14 elements of PSM. SPEC is viewed as an industry-leader in this area and has developed scalable compliance programs of varying size and complexity to satisfy the regulations and minimize risk related to hazardous chemicals. SPEC provides support for pipeline facilities with compliance, integrity, and risk management for OSHA 49 CFR 192 and 195. Our experience includes a wide variety of facilities - petrochemical, pharmaceuticals, pipeline and station facilities, fuels distribution terminals and facilities, research - pilot and lab scale systems, new technology risk evaluations and assessments. SPEC supports client efforts with code and standards compliance, benchmarking, best practices, quality assurance, cold eyes (3rd party) reviews, and RAGAGEP (Recognized and Generally Accepted Good Engineering Practices).

## Scope of Services & Experience

### Process Hazard Analysis Risk Support:

- HAZOP / SWIFT / LOPA / Fault Tree Analysis
  - Facilitation, Scribe, Subject Matter Expert, Training, Team Member
  - Documentation Preparation (Charter Development, Field Verification of Piping and Instrumentation Diagrams (P&IDs) and Electrical Area Classification Drawings, Review of Previous HAZOP Findings).
- Risk Probability, Consequence, and Scenario Evaluation Efforts
- Risk Prioritization and Ranking
- Remediation, Mitigation, and Risk Item Closure Engineering Support

### Process Safety Management Plan Development

- Audit Support
- Mechanical Integrity Program Development
- Facilitation and Implementation of Initial PSM Plan
- Assessment of Existing PSM Plan

### Facility Siting Evaluations

- Whole Business Platforms Development for Multi-Site Evaluation, Prioritization, and Ranking of Facility Risks
- Assessment of Existing Facilities

- Assessment of New Process, Chemicals, Layouts, or New Sites
- Evaluation of Acquisition Targets for Possible Risks
- Worse Case Release Evaluations and Consequences
- Evaluation of Offsite Impact Potential
- High Consequence Area Analysis
- Pipeline Threat Assessments and Identification
- Pipeline Analysis and Design
- Transient Surge Modeling

### Additional Areas of Support

- Federal, State, and Local Permitting and Application Support
- Compliance Auditing
- Asset Acquisition Analysis
- Due Diligence
- Environmental Assessment and Compliance
- Incident Investigation
- Cost Estimation and Feasibility Studies
- High Level Cost and Schedule Assessment
- EHS Evaluation of Material Handling Requirements
- Regulatory and Code Compliance
- Expert Witness Opinions, Reports, and Testimony