

Process Safety Management/ Risk Management

Chemicals have the ability to react when exposed to other chemicals or certain physical conditions. When chemical reactions are not properly managed, they can have harmful, or even catastrophic consequences, such as toxic fumes, fires, and explosions. Large facilities are not the only ones at risk. Whether you have 900 pounds (lbs.) or 90,000 lbs. of ammonia, the risk of something happening is similar, and a risk you cannot afford to take.

Since the 1990s, larger facilities with charges greater than applicable thresholds (generally 10,000 lbs) are required to comply with Occupational Safety and Health Administration's (OSHA's) Process Safety Management (PSM) Program and Environmental Protection Agency's (EPA's) Risk Management Program (RMP) requirements. A common misconception among smaller facilities is that they are exempt from any compliance issues because their charge is less than the applicable thresholds, but this is incorrect. There is a regulatory compliance "catch-all" for smaller facilities: The General Duty Clause (either from OSHA or EPA). These clauses cover every facility, including those with less than the applicable thresholds. These regulations can be found in 29 USC 654(a)(1) (OSHA) and the Clean Air Act Section 112(r)(1) (EPA). They set a minimum safety standard and place responsibility on employers to keep workers and neighbors safe from accidents involving hazardous chemicals.

CAPACCIO's experience with industrial processes and knowledge of compiling and reviewing process safety information is integral to the development of a complete process safety management system. We are highly qualified in the development, implementation and auditing of OSHA PSM and EPA RMP programs for the following processes:

- Ammonia dissociation
- Ammonia refrigeration
- Chlorine etching
- Flammable and toxic chemical blending
- Formaldehyde blending
- Precious metal refining using chlorine and sulfur dioxide

Our scientists and engineers assist industry by:

- Reviewing and designing processes for maximum output efficiency and safety
- Specifying materials of construction for components of process equipment so that they are compatible with the process specifications including: pressure, flow, temperatures and chemistry
- Developing auto-CAD process and instrumentation

- drawings (P&ID) and process flow diagrams (PFDs)
- Recommending adequate and feasible controls to prevent process failures, or catastrophic events due to mechanical or human error
- Conducting and documenting complete process hazard analyses (PHAs) using What-if/Checklists, Hazard and Operability Studies (HAZOP) and other methods appropriate for the specific process.

Through the use of process safety information and process hazard analysis outcomes, CAPACCIO develops mechanical integrity programs so that facilities can manage and maintain their process to prevent failures. In addition, CAPACCIO can assist with the development, implementation and documentation of the following PSM/RMP elements:

- Compliance audits
- Contractor qualification
- Emergency preparedness and response
- Employee involvement
- Hot work
- Incident investigation
- Management of change
- Operating procedures
- Pre start-up safety review
- Training

BENEFITS

- Protect your workers, the community, and the environment
- Avoid loss of time or unnecessary fines due to accidents, fines, or explosions
- Ensure your company does not experience a cataclysmic event
- Minimize risk and prevent incidents
- Increase efficiency
- Maintain systems and a safe working environment
- Ensure business continuity
- Satisfy shareholders interests and protect your company's reputation
- Meet customer and production demands
- Helps manage and foster good public relations

SERVICES

Risk Management Planning (RMP)

- 3 year audits
- 5 year EPA updates via EPA Contact Data Exchange (CDX)
- Emergency response plans
- Hazard assessments
- Management programs
- Off-site consequence analyses using
-RMP*Comp
-ALOHA-TSCREEN

- Prevention programs
- RMP applicability evaluations
- RMP master document
- RMP submit™ registrations
- Worst-case and potential release scenarios for modeling

Process Safety Management (PSM)

- 3 year audits
- 5 year PHA updates
- Applicability reviews
- Mechanical integrity program reviews
- Review of written programs and procedures

Compliance Assistance

- Auditing
- Facility compliance evaluation
- Legal counsel technical support
- NON/ACOP response preparation
- Regulatory agency meetings
- Strategic compliance/permit planning

Assessments

- Air refrigeration management
- Compliance testing
- Greenhouse gas inventories
- Permit and regulatory compliance review
- Process emission inventories
- Protocol development
- Testing supervision

QUALIFICATIONS

- Certified Safety Professionals (CSP)
- Licensed Professional Engineers (PE)
- Certified RABQSA Auditors
- Certified Industrial Hygienists (CIH)
- Certified Hazardous Materials Managers (CHMM)
- Members of International Institute of Ammonia Refrigeration (IIAR)
- Members of Air and Waste Management Association (AWMA)



293 Boston Post Road West
Marlborough, MA 01752
T: 508-970-0033 o F: 508-970-0028

www.capaccio.com - www.ems-hsms.com