

REGULATORY ASSISTANCE

> RMP/PSM Compliance

The Process Safety Management (PSM) standard, regulated by the Occupational Health and Safety Administration (OSHA) at 40 CFR 1910.119, is a performance standard that regulates the storage and/or processing of toxic, reactive, flammable or explosive substances. It requires affected facilities to develop and implement a PSM program with the purpose of preventing or minimizing the consequences of catastrophic chemical releases.

The Risk Management Program (RMP) developed under Section 112(r) of the 1990 Clean Air Act Amendments and promulgated under 40 CFR 68, regulates the storage and/or processing of toxic and flammable substances. It requires affected facilities to develop and submit risk management plans that include a hazard assessment (off-site consequence analysis), prevention program (similar to the PSM program), and emergency response program. The RMP is based on a three-tiered approach designed to link the required analysis and planning with the degree of risk associated with the facility.



To effectively address RMP/PSM requirements, the first step is to determine whether the facility uses any of the listed chemicals in quantities that exceed the program applicability thresholds. If so, the next step is to evaluate options to modify processes in order to opt out of the applicable program or, in the case of RMP, step down to a less rigorous level of requirements. Once program applicability is determined, the affected facility must develop the RMP/PSM applicable components - Hazard Assessment, Prevention Program, Emergency Response, and the Risk Management Plan.

Trinity Consultants' reputation for excellence in providing a broad range of environmental management services for clients nationwide, across many industries, extends to RMP

and PSM assistance. With each project, our goal is to exceed expectations so that our clients turn confidently to Trinity when faced with additional chemical safety challenges. Across a broad cross-section of industries, Trinity has extensive RMP and PSM knowledge gained through direct experience at many facilities. Senior consultants with extensive industry experience managing RMP/PSM programs are on hand to provide expertise and oversight.

Trinity's RMP/PSM support includes the following:

- > Tracking applicable regulatory developments
- > Determining RMP/PSM applicability
- > Assisting with preparation and implementation of Prevention Program elements
- > Conducting program audits including required triennial regulatory compliance audits
- > Facilitating Process Hazard Analyses (PHAs) for existing and new operations
- > Conducting off-site consequence analysis (OCA) modeling
- > Preparing the Risk Management Plan, updates and submittals
- > Training personnel on RMP/PSM elements and program execution
- > Assisting clients during agency inspections and meetings
- > National training courses: *Introduction to OSHA Regulations and Understanding and Application of RMP/PSM Requirements*

Selected PSM and RMP Project Experience

Agriculture Processing

- > Trinity assisted an agricultural processing facility in developing an RMP for an ammonia refrigeration system, based upon existing PSM program materials. Trinity partnered with the facility's PHA team to perform a PHA and to update the mechanical integrity program and other elements required for the PSM program. Trinity performed an off-site

consequence analysis and prepared the risk management plan submittal to comply with EPA's RMP requirements.

- Working with the site PHA team, Trinity prepared and led a revalidation PHA for agricultural processing facilities located in Iowa and Illinois.
- Working with the site PHA team, Trinity prepared and led a revalidation PHA for an ethanol manufacturing process located in Nebraska.



Chemical Manufacturing

- Working with a team of facility personnel representing engineering, operations, maintenance, and management at a chemical manufacturing plant located in Kansas, Trinity prepared and facilitated PHA revalidations for an ammonia synthesis process and associated chlorine and utility systems. Trinity also prepared and facilitated completion of a hazard and operability (HAZOP) design PHA for the boiler system installed at the site.
- For a client's U.S. sites, Trinity worked with the site PHA team and facilitated completion of HAZOP PHAs for multiple resin production sites and a HAZOP design review of a boiler installation.

General Manufacturing

- Trinity prepared and led RMP/PSM compliance audits, modification PHAs, and revalidation PHAs for propane, propylene, and cyclopentane handling systems at multiple consumer goods manufacturing sites.

- Trinity provided full RMP/PSM program implementation for greenfield propellant handling systems.

Oil & Natural Gas Processing

- Trinity assisted a natural gas midstream operator with a voluntary assessment of RMP/PSM programs for several gas processing facilities. Trinity updated covered process inventory calculations, determined their applicability boundaries under the RMP/PSM programs, and completed Offsite Consequence Analysis modeling for RMP subject operations. Trinity updated site RMP/PSM program elements including operating procedures, process safety information, incident investigation, and the emergency action/response plans. Trinity performed Process Hazard Analyses for the covered processes.
- Trinity provided multi-year on-site technical support for a refinery client to assist in the ongoing Management of Change and Process Hazard Analysis reviews of refinery process improvements and capital projects.

Power

- For multiple generating stations located in the Midwest, Trinity performed PHA revalidations and RMP/PSM Compliance Audits, updated potential ammonia release RMP offsite consequence analysis, and prepared information for the eRMP submittal based on the updated modeling report.
- Trinity developed all program elements for RMP/PSM program Level 3 implementations for ammonia handling systems at generating stations in Kansas.

Pulp and Paper

- At a pulp and paper facility in Georgia, Trinity evaluated and developed a RMP and RMP program for a butane process. Based on Trinity's analysis, the butane process was subject to Program 3 of the RMP requirements. Trinity worked with facility personnel in identifying available information on training programs, emergency actions plans, and maintenance systems such that a single unified plan was developed and could be maintained by the facility to address both rules.

For assistance with RMP/PSM applicability determination and compliance requirements, contact your local Trinity office at (800) 229-6655.

