

EPA RMA rule amended: what you need to know

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Scott Sandler from ABSG Consulting Inc. ("ABS Consulting") reveals the depth of the changes happening with the latest Rule changes to help ensure that people, plant and processes remain safer in their operations, and which helps them to better manage risks and protect their communities.

The Environmental Protection Agency (EPA) has recently finalized amendments to the Risk Management Program (RMP) on the Safer Communities by Chemical Accident Prevention Rule, which was initially proposed in August 2022 – guidance which has imposed the most protective safety provisions to date for the chemical industry and facility operators.

However, how the latest amendments that will be implemented across different types and sizes of organizations need serious consideration. While this cross disciplinary content targets facilities that process regulated toxic and flammable substances, not every company will have the expertise and bandwidth on their teams necessary to handle the updates on their own.

The EPA says that approximately 11,740 facilities that have filed current RMPs could be affected by the new Rule. These facilities include petroleum refineries and large chemical manufacturers; water and wastewater treatment systems; chemical and petroleum wholesalers and terminals; food manufacturers, packing plants, and other cold storage facilities with ammonia refrigeration systems; agricultural chemical distributors; midstream gas plants; and a limited number of Federal installations that use RMP-regulated substances.

Monetizing the Risk

Chemical accidents can impose substantial costs on firms, employees, emergency responders, the

community, and the broader economy.

The EPA has calculated the annual financial impact of accidents at RMP facilities to be approximately \$540.23 million. These damages are categorized into onsite and offsite impacts. Specifically, the EPA has determined that the average annual onsite damages due to chemical releases at these facilities amount to \$497.90 million. Within this category, the most significant financial burden comes from property damage, which is estimated at \$454.58 million annually. Additionally, the EPA has quantified the cost of onsite fatalities at \$37.57 million per year, while injuries contribute another \$5.75 million to the total damages.

The EPA also estimates that there are approximately 131 million people living within three miles of RMP facilities. Consequently, the Rule includes provisions designed to empower workers in safety decisions and increase access to RMP facility information for communities living and working in the surrounding areas.

In recent years, increased requirements under the revised RMP could have played a crucial role in mitigating or preventing significant industrial accidents. For example, in cases like an explosion and fire that occurred at an industrial facility in 2019, these enhanced provisions would have mandated a comprehensive analysis of safer technologies and alternatives. Facilities would also be required to implement at least one safeguard measure based on this analysis. Such proactive measures are designed to significantly reduce the likelihood of catastrophic events, thereby enhancing safety and minimizing potential damage.

RMP Rule Amendments

The EPA is amending its RMP regulations as a result of Agency review. The revisions include several changes and amplifications to the accident prevention program requirements in 40 CFR Part 68. The changes include revisions to existing requirements for Program 2 facilities (Subpart C) in (1) Safety Information, (2) Hazard Review, (3) Operating Procedures, (4) Compliance Audits, (5) Third-Party Audits, (6) Incident Investigation, and (7) Employee Participation. The changes include revisions to existing requirements for Program 3 facilities (Subpart D) in (1) Process Safety Information (PSI), (2) Process Hazard Analysis (PHA), (3) Operating Procedures, (4) Compliance Audits, (5) Third-Party Audits, (6) Incident Investigation, (7) Employee Participation, and (8) Hot Work Permit.

Additional updates include (1) enhancements to the emergency preparedness requirements, (2) improvements to the public availability of chemical hazard information, and (3) several other changes to certain regulatory definitions or points of clarification.

The following sections summarize the changes to Subparts C, D, E, and G.

Subpart C and D — Program 2 / 3 Prevention Programs

The changes to Subparts C and D are summarized below. The applicability of the changes is noted by inclusion of the specific clause number in the parentheses preceding each item. For example, if an item applies for both Subparts C and D, both clause numbers are included in the parenthesis.

(1) Safety Information/PSI:

Safety information (§ 68.48) / PSI (§ 68.65):

- (§ 68.65) The owner/operator shall complete a compilation of written PSI before conducting any required PHA and shall keep PSI up to date to enable the owner/operator and the employees involved in operating the process to identify and understand the hazards posed by the covered processes,
- (§ 68.48/68.65) The owner/operator shall ensure and document that the process is designed and maintained in compliance with Recognized And Generally Accepted Good Engineering Practices (RAGAGEP);

(2) Hazard Review/PHA:

Hazard Review (§ 68.50) / PHA (§ 68.67); the PHA must cover:

- (§ 68.50/68.67) Monitoring equipment associated with prevention and detection of accidental releases from covered processes which must have standby or backup power to provide continuous operation,
- (§ 68.67) Stationary source siting, including the placement of processes, equipment, and buildings within the facility, and hazards posed by proximate stationary sources, and accidental release consequences posed by proximity to the public and public receptors,
- (§ 68.50/68.67) Natural hazards that could cause or exacerbate an accidental release,
- (§ 68.67) Safer technology and alternative risk management measures applicable to eliminating or reducing risk from process hazards for the certain covered processes,
- (§ 68.67) Any gaps in safety between the codes, standards, or practices to which the process was designed and constructed and the most current version of applicable codes, standards, or practices;

(3) Operating Procedures:

Operating procedures (§ 68.52) / (§ 68.69):

- Safety systems and their functions, including documentation when monitoring equipment associated with prevention and detection of accidental releases from covered processes is removed due to safety concerns from imminent natural hazards;

(4) Compliance Audits:

Compliance Audits (§ 68.58) / (§ 68.79):

- The next required compliance audit shall be a third-party audit when one or more of the following conditions applies if:
 - an accidental release meeting the criteria in § 68.42(a) (i.e., deaths, injuries, or significant property damage on site; or known offsite deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage) from a covered process at a stationary source has occurred, or
 - an implementing agency requires a third-party audit due to conditions at the stationary source that could lead to an accidental release of a regulated substance, or when a previous third-party audit failed to meet the competency or independence criteria of § 68.80(c);

(5) Third-Party Audits:

Third-Party Audits (§ 68.59) / (§ 68.80):

- The owner/operator shall engage a third party to conduct an audit when any criterion of § 68.79(f) is met. The owner/operator shall either:
 - engage a third-party auditor meeting all competency and independence criteria, or
 - assemble an auditing team, led by a third-party auditor meeting all competency and independence criteria,
- The owner/operator shall determine and document that the third-party auditor(s) meet the following competency and independence requirements, including training/certification and knowledge and experience with the regulatory requirements, the stationary source type and processes being audited, and RAGAGEP,
- Within 90 days after receiving the final audit report, the owner/operator shall determine an appropriate response to each of the findings in the audit report, and develop a findings response report that includes:
 - a copy of the final audit report,
 - an appropriate response to each of the audit report findings,
 - a schedule for promptly addressing deficiencies, and
 - a valid certification;

(6) Incident Investigation:

Incident Investigation (§ 68.60) / (§ 68.81):

- For an incident that meets the accident history reporting requirements under § 68.42:
 - the owner/operator shall ensure the corresponding report is completed within 12 months of the incident (unless the implementing agency approves, in writing, an extension of time), and
 - the report shall include factors that contributed to the incident including the initiating event, direct and indirect contributing factors, and root causes, determined by conducting an analysis for each incident using a recognized method;

(7) Employee Participation:

Employee Participation (§ 68.62) / (§ 68.83):

- (§ 68.62) / (§ 68.83) The owner/operator shall develop a written plan of action regarding the implementation of the employee participation requirements, including:
 - an annual written or electronic notice which shall be distributed to employees and their representatives indicating that the plan is readily available to view and how to access the information,
 - training which shall be provided as often as necessary to ensure employees and their representatives, and management involved in the process, are informed of the details of the plan,
- (§ 68.83) The owner/operator shall consult with employees and their representatives on the conduct and development of PHAs and on the development of the other elements of PSM,
- (§ 68.83) The owner/operator shall consult with employees knowledgeable in the process and their representatives on addressing, correcting, resolving, documenting, and implementing recommendations and findings of PHAs, compliance audits, and incident investigations,

- (§ 68.83) The owner/operator shall authorize qualified operators in charge of a unit and their representatives to partially or completely shut down a process based on the potential for a catastrophic release,
- (§ 68.62) / (§ 68.83) The owner/operator shall develop and implement a process to allow employees and their representatives to report unaddressed hazards that could lead to a catastrophic release to the owner/operator and/or EPA anonymously or with attribution; and a record of the report shall be maintained for three years;

(8) Hot Work Permit:

Hot Work Permit (§ 68.85):

- The permit shall document that the fire prevention and protection requirements in 29 CFR 1910.252(a) have been implemented prior to beginning the hot work operations,
- The permit shall be retained for three years after the completion of the hot work operations.

Subpart E — Emergency Response

- Procedures for informing the public and the appropriate Federal, State, and local emergency response agencies about accidental releases, including partnering with these response agencies to ensure that a community notification system is in place to warn the public within the area potentially threatened by the accidental release,
- The emergency response plan shall include providing timely data and information detailing the current understanding and best estimates of the nature of the release when an accidental release occurs and be coordinated with the community emergency response plan developed under 42 U.S.C. 11003,
- The owner/operator shall consult with local emergency response officials to establish an appropriate frequency for field exercises, and shall conduct a field exercise before March 15, 2027, and at a minimum at least once every ten years thereafter, unless the appropriate local emergency response agencies agree in writing that such frequency is impractical,
- The owner/operator shall prepare an evaluation report within 90 days of each field and tabletop exercise including a schedule to promptly address and resolve any recommendations.

Subpart G — Risk Management Plan

- Method of communication and location of the notification that chemical hazard information is available to the public residing, working, or spending significant time within 6 miles of the stationary source,
- For Program 2 and 3 facilities, RM plans to include:
 - recommendations declined from natural hazard, power loss, and siting hazard evaluations and justifications, and
 - the date of the most recent compliance audit, expected date of completion of any changes, whether the most recent compliance audit was conducted by a third party, and any findings declined with justifications,
- For Program 3 facilities, RM plans to also include:
 - inherently safer technology or design measures implemented since the last PHA, if any, and the technology category (i.e., substitution, minimization, simplification and/or moderation),

- recommendations declined from safety gap analyses between codes, standards, or practices to which the process was designed and constructed and the most current version of applicable codes, standards, or practices.

Addressing the Amendment Requirements

Per the EPA's ruling dated March 11, 2024, "this final rule is effective on May 10, 2024." Since this is effectively a 60-day requirement, many of the updates are considered provisions that should already be in place. The only "new" requirement due on May 10, 2024, is for the PHA team to document and address any gaps in safety between the codes, standards, or practices to which the process was designed and constructed and the most current version of applicable codes, standards, or practices.

Suggestions for addressing such gaps during a PHA include adding (1) a single related question in a "global" node, (2) a "safety gaps in codes/standards" deviation in each process node, or (3) one or more related questions to a standard existing PHA checklist. The PHA report should include a brief discussion stating how the facility manages codes/standards and revisions to them and any gaps that are identified, with reference to the worksheets/checklist.

The following requirements must be placed in effect in approximately three years as follows:

By May 10, 2027, the owner/operator shall comply with the following provisions promulgated on May 10, 2024:

- Standby or backup power for continuous operation of monitoring equipment associated with prevention and detection of accidental releases from covered processes for Program Level 2 (§ 68.50) and Program Level 3 (§ 68.67),
- Third-party audit provisions for Program Level 2 (§ 68.58/68.59) and Program Level 3 (§ 68.79/68.80),
- Incident investigation root cause analysis provisions for Program Level 2 (§ 68.60) and Program Level 3 (§ 68.81),
- Safer technology and alternatives analysis provisions for Program Level 3 (§ 68.67),
- Employee participation provisions for Program Level 2 (§ 68.62) and Program Level 3 (§ 68.83),
- Emergency response provisions for Program Level 2 (§ 68.90) and Program Level 3 (§ 68.95),
- Availability of information provisions in § 68.210.

By March 15, 2027, or within 10 years of the date of an emergency response field exercise conducted between March 15, 2017 and August 31, 2022, the owner/operator shall conduct a field exercise.

By May 10, 2028, the owner/operator shall comply with the risk management plan provisions of Subpart G promulgated on May 10, 2024.

Better Protection

As ABS Consulting highlights, to better protect at-risk communities from chemical accidents, the final RMP Rule seeks to:

1. Improve chemical process safety;
2. Assist in planning for, preparing for, and responding to accidents; and

3. Increase public awareness of chemical hazards at regulated sources.

The RMP Rule, coded 40 CFR Part 68, applies to all owners and operators of a facility (or stationary source) that manufactures, uses, stores or otherwise handles more than a threshold quantity of a toxic or flammable substance (listed at 68.130) in a process. Part 68 requires regulated facilities to develop and implement a RMP for all covered processes.

Covered facilities must submit the RMP to the EPA and revise and resubmit the RMP to the agency every five years.

EPA Administrator Michael S. Regan says: "Many communities that are vulnerable to chemical accidents are in overburdened and underserved areas of the country. This final Rule is a critical piece of the Biden-Harris Administration's commitment to advancing environmental justice by putting in place stronger safety requirements for industrial facilities and new measures to protect communities from harm."

Final amendments to the Rule include:

- Requiring a safer technologies and alternatives analysis, and in some cases, implementation of reliable safeguard measures for certain facilities in industry sectors with high accident rates.
- Advancing employee participation, training, and opportunities for employee decision-making in facility accident prevention, for example:
 - Reiterating the allowance of a partial or complete process shutdown in the event of a potential catastrophic release.
 - Implementing a process to allow employees and their representatives to anonymously report specific unaddressed hazards.
- Requiring Third-Party compliance audits and root cause analysis incident investigation for facilities that have had a prior accident.
- Enhancing facility planning and preparedness efforts to strengthen emergency response by ensuring chemical release information is timely shared with local responders and a community notification system is in place to warn the community of any impending release.
- Emphasizing the requirement for regulated facilities to evaluate risks of natural hazards and climate change, including any associated loss of power.
- Increasing transparency by providing access to RMP facility information for communities nearby.

This commitment aligns with a key goal of the National Climate Resilience Framework – to equip communities with the information and resources needed to assess their climate risks and develop the climate resilience solutions most appropriate for them.

The Role of Third-Party Technical Expertise – How ABS Consulting Can Help

ABS Consulting has more than 100 experienced process safety professionals who have been closely watching the rulemaking process for these changes. They are ready and available to help organizations with these regulatory updates.

The ABS Consulting team can assist organizations with the PSI and PHA rule changes with a May 2024 implementation date. Specifically, ABS Consulting can provide personnel to assist with the following types of activities:

- Reviewing existing PSI to assess gaps related to maintaining up-to-date information
- Providing resources to update PSI, especially equipment-related PSI (e.g., P&IDs, electrical classification, relief system design and design basis, RAGAGEPs)
- Evaluating the process-related PSI to help ensure the process (and especially equipment) has been designed and maintained in compliance with RAGAGEPs
- Reviewing and updating PHA protocols to address the new PHA requirements
- Providing natural hazard SMEs to assist with PHA protocol changes
- Providing natural hazard SMEs and RAGAGEP-knowledgeable personnel to participate on PHA teams
- Conducting PHAs that incorporate the new PHA requirements
- Compiling and generating (as needed) safety system information to be incorporated in operating procedures
- Providing resources to update operating procedures

In addition, ABS Consulting's process safety team is ready to assist with RMP program changes to address the longer-term program changes, such as:

- Assisting in developing PHA tools and protocols to (1) evaluate technologies and alternative risk management activities and (2) identify, determine and document the passive, active, and administrative measures
- Developing and providing training for PHA facilitators and participants on addressing the new PHA requirements
- Performing third-party audits and/or providing third-party audit or resources
- Developing and helping to implement third-party audit programs
- Updating and helping to implement incident investigation programs to include root cause analysis
- Providing root cause analysis training
- Updating employee participation and emergency response programs
- Updating RMP plans to address the changes

Commitment to safety management and compliance helps support a safer environment and safeguard both people and processes for a more resilient and responsible future.

The process of safety and regulatory regimes in many parts of the world have been refined to make risk identification and mitigation implementation increasingly robust, with accidents becoming rarer and of lower impact. The industry has come a long way with continuous learning and improvement, but every incident shows there is no room for complacency.

As is often true in critical regulation, there is no one agency with authority over 'hazmat' or hazardous materials. Every process touches environmental issues, zoning and land use, chemical storage, and more as well as multiple modes of long- and short-distance transportation. Agencies such as the EPA, the Federal Regulatory Commission (FERC), and the Departments of Transportation, Agriculture, Homeland Security, along with local and Tribal representatives, may all have roles to play.

Of course, industry leaders will also need to stay open and flexible. They should be willing to balance industry's guiding mission – to provide value to customers – with the government's desire to protect people and the environment. Critically, all parties should shift their thinking and accept that neither goal will be reached unless they find more effective ways to work together to improve the safety ecosystem at large.