ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 68

[EPA–HQ–OLEM–2022–0174; FRL–5766.6–01–OLEM]

RIN 2050–AH22

Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act; Safer Communities by Chemical Accident Prevention

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to amend its Risk Management Program (RMP) regulations as a result of Agency review. The proposed revisions include several changes and amplifications to the accident prevention program requirements, enhancements to the emergency preparedness requirements, increased public availability of chemical hazard information, and several other changes to certain regulatory definitions or points of clarification. These proposed amendments seek to improve chemical process safety; assist in planning, preparedness, and responding to RMP-reportable accidents; and improve public awareness of chemical hazards at regulated sources.

DATES: Comments must be received on or before October 31, 2022.

Public Hearings: EPA will hold virtual public hearings on September 26, 2022; September 27, 2022; and September 28, 2022, at *https://www.epa.gov/rmp/forms/virtual-public-hearings-risk-management-program-safer-communities-chemical-accident.* Please refer to the **SUPPLEMENTARY INFORMATION** section of this preamble for additional information on the public hearings.

ADDRESSES: You may send comments, identified by Docket ID No. EPA–HQ–OLEM–2022–0174, by any of the following methods:

- *Federal eRulemaking Portal: https://www.regulations.gov/* (our preferred method). Follow the online instructions for submitting comments.
- *Mail:* U.S. Environmental Protection Agency, EPA Docket Center, EPA–HQ–OLEM–2022–0174 Docket, Mail Code 28221T, 1200 Pennsylvania Avenue NW, Washington, DC 20460.
- *Hand delivery or courier (by scheduled appointment only):* EPA Docket Center, WJC West Building, Room 3334, 1301 Constitution Avenue NW, Washington, DC 20004. The Docket Center's hours of operations are 8:30 a.m. to 4:30 p.m., Monday through Friday (except Federal holidays).

Instructions: All submissions received must include the Docket ID No. for this rulemaking. Comments received may be posted without change to *https://www.regulations.gov/,* including any personal information provided. For detailed instructions on sending comments and more information on the rulemaking process, see the ''Public Participation'' heading of the **SUPPLEMENTARY INFORMATION** section of this preamble. For further information on EPA Docket Center services and the current status, please visit us online at *https://www.epa.gov/dockets.*

The virtual hearings will be held at *https://www.epa.gov/rmp/forms/virtual-public-hearings-risk-management-program-safer-communities-chemical-accident.* The hearing on September 26, 2022, will convene at 9:00 a.m. (local time) and will conclude at 12:00 p.m. (local time). The hearing on September 27, 2022, will convene at 1:00 p.m. (local time) and will conclude at 4:00 p.m. (local time). The hearing on September 28, 2022, will convene at 5:00 p.m. (local time) and will conclude at 8:00 p.m. (local time). Refer to the **SUPPLEMENTARY INFORMATION** section below for additional information.

FOR FURTHER INFORMATION CONTACT: Deanne Grant, Office of Emergency Management, Mail Code 5104A, Environmental Protection Agency, 1200 Pennsylvania Avenue NW, Washington, DC 20460; telephone number: 202–564–1096; email: g*rant.deanne@epa.gov* or Veronica Southerland, Office of Emergency Management, Mail Code 5104A, Environmental Protection Agency, 1200 Pennsylvania Avenue NW, Washington, DC 20460; telephone number: 202–564–2333; email: *southerland.veronica@epa.gov.*

SUPPLEMENTARY INFORMATION:

Preamble acronyms and abbreviations. EPA uses multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

List of Abbreviations and Acronyms

ACC American Chemistry Council
AN ammonium nitrate
ANPI Apache Nitrogen Products Inc.
ANSI American National Standards Institute
API American Petroleum Institute
AQMD Air Quality Management Districts
ASSP American Society of Safety Professionals
ASTM American Society for Testing and Materials
BSEE Bureau of Safety and Environmental Enforcement
CAA Clean Air Act
CAAA Clean Air Act Amendments
CDC Centers for Disease Control and Prevention
CDR Chemical Data Reporting
CCPS Center for Chemical Process Safety
CFATS Chemical Facility Anti-Terrorism Standards
CFR Code of Federal Regulations
CGA Compressed Gas Association
CSB Chemical Safety and Hazard Investigation Board
DHS Department of Homeland Security
DIR California Department of Industrial Relations
DOJ Department of Justice
DOT Department of Transportation
EHS Extremely Hazardous Substances
EJ Environmental Justice
E.O. Executive Order
EPA Environmental Protection Agency
EPCRA Emergency Planning and Community Right-To-Know Act
FEMA Federal Emergency Management Agency
FOIA Freedom of Information Act
FR Federal Register
FRS Facility Registry Service
GDC General Duty Clause
GMARD Guide for Making Acute Risk Decisions
HF hydrofluoric acid
HHC highly hazardous chemical
IEEE Institute of Electrical and Electronics Engineers
IIAR International Institute of Ammonia Refrigeration
IPAWS Integrated Public Alert & Warning System
ISD inherently safer design
IST inherently safer technology
LEPC local emergency planning committee
LPG liquefied petroleum gas
MACT Maximum Achievable Control Technology
NAICS North American Industry Classification System
NASTTPO National Association of SARA Title III Program Officials
NESHAP National Emission Standards for Hazardous Air Pollutants
NFPA National Fire Protection Association
NJAC New Jersey Administrative Code
NJDEP New Jersey Department of Environmental Protection
NREL National Renewable Energy Laboratory
NSPS New Source Performance Standards
NTTAA National Technology Transfer Advancement Act
OCA offsite consequences analysis
OSHA Occupational Safety and Health Administration
PHA process hazard analysis
PRA Paperwork Reduction Act
PSM process safety management
RAGAGEP recognized and generally accepted good engineering practices
RFA Regulatory Flexibility Act
RFI request for information
RIA Regulatory Impact Analysis
RMP Risk Management Program or risk management plan
SARA Superfund Amendments and Reauthorization Act
SCCAP Safer Communities by Chemical Accident Prevention

SDS Safety Data Sheet
SEMS Safety and Environmental Management Systems
SOCMA Society of Chemical Manufacturers and Affiliates
STAA safer technology and alternatives analysis
TCPA Toxic Catastrophe Prevention Act
TEPC Tribal emergency planning committee
TNT trinitrotoluene
TQ threshold quantity
UMRA Unfunded Mandates Reform Act

Organization of this document. The information in this preamble is organized as follows:

I. Public Participation

A. Written Comments

Submit your comments, identified by Docket ID No. EPA–HQ–OLEM–2022–0174, at *https://www.regulations.gov* (our preferred method), or the other methods identified in the **ADDRESSES** section, above. Once submitted, comments cannot be edited or removed from the docket. EPA may publish any comment received to its public docket. Do not submit to EPA's docket at *https://www.regulations.gov* any information you consider to be confidential business information or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, *etc.*) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside the primary submission (*i.e.,* on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about confidential business information or multimedia submissions, and general guidance on making effective comments, please visit *https://www.epa.gov/dockets/commenting-epa-dockets.*

Due to public health concerns related to COVID–19, the EPA Docket Center and Reading Room are open to the public by appointment only. Our Docket Center staff also continues to provide remote customer service via email, phone, and webform. Hand deliveries or couriers will be received by scheduled appointment only. For further information and updates on EPA Docket Center services, please visit us online at *https://www.epa.gov/dockets.*

EPA continues to carefully and continuously monitor information from the Centers for Disease Control and Prevention (CDC), local area health departments, and its Federal partners so that it can respond rapidly as conditions change regarding COVID–19.

B. Comment Headings

Commentors should review the discussions in the preamble and may comment on any matter that is addressed by the proposed rule. For comments submitted through postal mail or *https://www.regulations.gov,* EPA is requesting commenters to identify their comments on specific issues by using the appropriate number and comment headings listed below to make it simpler for the Agency to

process your comment. If your comment covers multiple issues, please use all the heading numbers and names that relate to that comment. As an example of this optional method, where one individual comment relates to issue #1 and a second individual comment pertains to issues #2 and #3, a set of comments would be submitted as follows:

1. Natural Hazards—EPA requests comment on the following (See Section IV.A.1.b):

- The Agency's proposed approach.
- Whether EPA should develop additional guidance for assessing natural hazards.
- Natural hazard resources such as databases, checklists, or narrative discussions, as well as commenters' recommendations for regional versus national, or sector-specific guidance.
- Whether to specify geographic areas most at risk from climate or other natural events by adopting the list of areas exposed to heightened risk of wildfire, flooding, storm surge, or coastal flooding and if this approach would simplify implementation.
- If the Agency should require sources in areas exposed to heightened risk of wildfire, flooding, storm surge, coastal flooding, or earthquake, to conduct hazard evaluations associated with climate or earthquake as a minimum, while also requiring all sources to consider the potential for natural hazards unrelated to climate or earthquake in their specific locations.

2. Power Loss—EPA requests comment on the following (See Section IV.A.1.c):

- The Agency's proposed approach.
- The proposed provision to require air pollution control or monitoring equipment associated with prevention and detection of accidental releases from RMP-regulated processes to have standby or backup power and any potential safety issues associated with it.

3. Stationary Source Siting—EPA requests comment on the following (See Section IV.A.1.d):

- The Agency's proposed approach.

4. Hazard Evaluation Recommendation Information Availability—EPA requests comment on the following (See Section IV.A.1.e):

- The Agency's proposed approach.
- Whether EPA should require declined hazard evaluation recommendations to be included in narrative form, whether the Agency should provide specific categories of recommendations for facilities to choose from when reporting or allowing the owner or operator to post this information online and provide a link to their information within their RMP.
- Methods to provide justification for declining relevant hazard evaluation recommendations, the proposed approach or alternative categories.

5. Safer Technology and Alternatives Analysis (STAA)—EPA requests comment on the following (See Section IV.A.2.a):

- The Agency's proposed approach.
- Industry understanding of the practicability assessment, and how this might differ from the findings identified in the PHA.
- Additional benefits provided by the practicability assessment.
- EPA's definition of the practicability assessment.
- How to determine if a facility is within a 1-mile radius and if EPA should use locational data provided by facilities, or develop a standard definition (*e.g.,* 1 mile to the facility fenceline or 1 mile to the regulated process location).
- Information that should be collected in a STAA clearinghouse.
- The proposed STAA applicability criteria and alternatives.
- Whether EPA should reinstate the 2017 rule provisions requiring STAA for all NAICS 324 and 325 processes.
- Whether the proposal to limit the STAA provisions to NAICS 324 and 325 regulated processes within 1 mile of another NAICS 324 and 325 regulated facility is appropriate or if another distance (*e.g.,* 3 miles) would be appropriate, and the rationale for proposed distance alternatives.
- Other industries for which STAA should be required and how EPA might justify extending these provisions to other industries.
- What other information or consideration EPA can use to assess probability of an accident in other industries without accident history data as well as what specific chemicals or processes may merit the most focus, and how EPA may require STAA requirements for industries without a history of accidents.
- If the Agency should only require the STAA as part of the PHA, without the additional practicability assessment.
- For any cited costs of implementing the STAA as part of the PHA, documentation to support cost estimates.
- For any cited costs of implementing the practicability assessment of the STAA provisions, documentation to support cost estimates.

6. Root Cause Analysis—EPA requests comment on the following (See Section IV.A.2.b):

- The Agency's proposed approach.
- A potential definition of ''near miss'' that would address difficulties in identifying the variety of incidents that may occur at RMP facilities that could be near misses that should be investigated.
- A universal ''near miss'' definition, as well as comments on strengths and limitations of the definition provided by NJDEP and how the definition may clarify requirements for incident investigations.

7. Third Party Compliance Audits—EPA requests comment on the following (See Section IV.A.2.c):

- The Agency's proposed approach.
- Proposed independence criteria modified from the 2017 rule.
- Whether the selected auditor should be mutually approved by the owner or operator and employees and their representatives, and if direct participation from employees and their representative should be required when a third party conducts an audit.
- Whether EPA should require declined findings be included in narrative form, or whether the Agency should provide specific categories of findings for facilities to choose from when reporting.

8. Employee Participation—EPA requests comment on the following (See Section IV.A.2.d):

- The Agency's proposed approach.
- Whether there should be a representative number or percentage of employees and their representatives involved in these recommendations decision teams as well as the development of other process safety elements as outlined in 40 CFR 68.83(b).
- Relevant sources that have provided useful guidance in making risk decisions.
- Whether owners and operators should distribute an annual written or electronic notice to employees that employee participation plans and other RMP information is readily accessible upon request and provide training for those plans and how to access the information.

9. Proposed Modifications and Amplifications to Emergency Response Requirements—EPA requests comment on the following (See Section IV.B.2):

- The Agency's proposed approach.
- Additional information that is useful to share when notifying the public of RMP-accidental releases.
- Impediments to accessing community emergency response plans and potential solutions to having the plans more accessible within the scope of the RMP rule.

10. Emergency Response Exercises—EPA requests comment on the following (See Section IV.B.3):

- The Agency's proposed approach.

11. Information Availability—EPA requests comment on the following (See Section IV.C.3):

- The Agency's proposed approach.
- If the 6-mile radius for requesting information is appropriate. For alternative distances, information on the justification for these alternative distances.
- Specific information on the increased likelihood of security threats arising from dissemination of this information.
- Which data elements, or combinations of elements, may pose a security risk if released to the public (provided in Section 10 of the Technical Background Document).
- For each element or combination of elements identified as a potential security risk: (1) Specific comments on why the element or combination of elements presents a security risk and (2) documentation or basis for these security claims, such as expert studies, intelligence assessments, a prior incident, documented security threat, or near miss incident.

12. Other Areas of Technical Clarification—EPA requests comment on the following (See Section IV.D):

- The Agency's proposed approaches.
- For revisions to ''storage incident to transportation'' definition, the proposed 48-hour time frame, suggestions for other appropriate time frames, and any safety concerns that may arise from transportation containers being exempt from the RMP rule when disconnected for less than 48 hours.

13. Regulatory Impact Analysis—EPA requests comment on the following (See Section II.D):

- The assumptions and information used in the analysis, including burden estimates and the likelihood of adopting safer alternatives.
- The estimated costs of the proposed provisions and whether these costs should accrue to this proposal.
- Cost data or studies related to the cost of practicability studies for conversion of hydrofluoric acid alkylation units to safer technologies.
- The estimated benefits of the proposed provisions.

14. Regulatory Flexibility Act Analysis

- The number of small entities potentially affected by the proposed provisions of this rule.
- The estimated cost impacts on small entities by the proposed provisions of this rule.

15. OTHER—Any comments not falling under one of the preceding categories should be identified using 'OTHER' as the comment header.

C. Participation in Virtual Public Hearings

Please note that because of current CDC recommendations, as well as State and local orders for social distancing to limit the spread of COVID–19, EPA cannot hold in-person public meetings at this time.

EPA will begin pre-registering speakers for the hearing upon publication of this preamble in the **Federal Register** (FR). To register to speak at the virtual hearings, please see the online registration form available at *https://www.epa.gov/rmp/forms/virtual-public-hearings-risk-management-program-safer-communities-chemical-accident* or contact Deanne Grant at 202–564–1096 or *grant.deanne@epa.gov* to register to speak at the virtual hearings. The last day to pre-register to speak at the hearings will be September 22, 2022, EPA will post a general agenda for the hearings that will list pre-registered speakers in approximate order at *https://www.epa.gov/rmp/forms/virtual-public-hearings-risk-management-program-safer-communities-chemical-accident.*

EPA will make every effort to follow the schedule as closely as possible on the day of the hearings; however, please plan for the hearings to run either ahead of schedule or behind schedule.

Each commenter will have 3 minutes to provide oral testimony. EPA encourages commenters to provide EPA with a copy of their oral testimony electronically (via email) by emailing it to Deanne Grant at *grant.deanne@epa.gov.* EPA also recommends submitting the text of your oral comments as written comments to the rulemaking docket.

EPA may ask clarifying questions during the oral presentations but will not respond to the presentations at that time. Written statements and supporting information submitted during the comment period will be considered with the same weight as oral comments and supporting information presented at the public hearings.

Please note that any updates made to any aspect of the hearings are posted online at *https://www.epa.gov/rmp/forms/virtual-public-hearings-risk-management-program-safer-communities-chemical-accident.* While EPA expects the hearings to go forward as set forth above, please monitor the Agency's website or contact Deanne Grant, 202–564–1096, *grant.deanne@epa.gov,* to determine if there are any updates. EPA does not intend to publish a document in the **Federal Register** announcing updates.

If you require the services of a translator or special accommodations such as audio description, please pre-register for the hearings with Deanne Grant and describe your needs by September 19, 2022. EPA may not be able to arrange accommodations without advanced notice.

II. General Information

A. Does this action apply to me?

This rule applies to those facilities (referred to as ''stationary sources'' under the Clean Air Act, or CAA) that are subject to the chemical accident prevention requirements at 40 CFR part 68. This includes stationary sources holding more than a threshold quantity (TQ) of a regulated substance in a process. Nothing in this rule would impact the scope and applicability of the General Duty Clause in CAA 112(r)(1), 42 U.S.C. 7412(r)(1). See 40 CFR 68.1. Table 1 provides industrial sectors and the associated North American Industry Classification System (NAICS) codes for entities potentially affected by this action. The Agency's goal is to provide a guide on entities that might be affected by this action. However, this action may affect other entities not listed in this table. If you have questions about the applicability of this action to a particular entity, consult the person(s) listed in the **FOR FURTHER INFORMATION CONTACT** section of this preamble.

TABLE 1—ENTITIES POTENTIALLY AFFECTED BY THE PROPOSED RULE

Sector	NAICS codes	Number of facilities	Chemical uses
Administration of environmental quality programs (*i.e.,* governments, government-owned water).	92, 2213 (government-owned).	1,449	Use chlorine and other chemicals for water treatment.
Agricultural chemical distributors/wholesalers	11, 424 (except 4246, 4247).	3,315	Store ammonia for sale; some in NAICS 111 and 115 use ammonia as a refrigerant.
Chemical manufacturing	325	1,502	Manufacture, process, store.

TABLE 1—ENTITIES POTENTIALLY AFFECTED BY THE PROPOSED RULE—Continued

Sector	NAICS codes	Number of facilities	Chemical uses
Chemical wholesalers	4246	317	Store for sale.
Food and beverage manufacturing	311, 312	1,571	Use (mostly ammonia) as a refrigerant.
Oil and gas extraction	211	719	Intermediate processing (mostly regulated flammable substances and flammable mixtures).
Other	21 (except 211), 23, 44, 45, 48, 491, 54, 55, 56, 61, 62, 71, 72, 81, 99.	246	Use chemicals for wastewater treatment, refrigeration, store chemicals for sale.
Other manufacturing	313, 314, 315, 326, 327, 33.	375	Use various chemicals in manufacturing process, waste treatment.
Other wholesale	421, 422, 423	39	Use (mostly ammonia) as a refrigerant.
Paper manufacturing	321, 322	55	Use various chemicals in pulp and paper manufacturing.
Petroleum and coal products manufacturing	324	156	Manufacture, process, store (mostly regulated flammable substances and flammable mixtures).
Petroleum wholesalers	4247	367	Store for sale (mostly regulated flammable substances and flammable mixtures).
Utilities/water/wastewater	221 (non-government-owned water).	519	Use chlorine (mostly for water treatment) and other chemicals.
Warehousing and storage	493	1,110	Use (mostly ammonia) as a refrigerant.
Total		11,740	

B. What action is the Agency taking?

The purpose of this action is to propose changes to the RMP rule in order to improve safety at facilities that use and distribute hazardous chemicals. The RMP regulations have been effective in preventing and mitigating chemical accidents in the United States. However, EPA believes that revisions could further protect human health and the environment from chemical hazards through advancement of process safety based on lessons learned. These proposed revisions are a result of review of the existing RMP regulations and information gathered from the 2021 virtual public listening sessions (hereinafter referred to as the ''2021 listening sessions'').[1]

C. What is the Agency's authority for taking this action?

The statutory authority for this action is provided by section 112(r) of the CAA as amended (42 U.S.C. 7412(r)). Each modification of the RMP rule that EPA proposes in this document is based on EPA's rulemaking authority under CAA section 112(r)(7) (42 U.S.C. 7412(r)(7)). When promulgating rules under CAA section 112(r)(7)(A) and (B), EPA must follow the procedures for rulemaking set out in CAA section 307(d) (see CAA sections 112(r)(7)(E) and 307(d)(1)(C)). Among other things, CAA section 307(d) sets out requirements for the content of proposed and final rules, the docket for each rulemaking, opportunities for oral testimony on proposed rulemakings, the length of time for comments, and judicial review.

D. What are the costs and benefits of this action?

1. Summary of Estimated Costs

Approximately 11,740 facilities have filed current risk management plans with EPA and are potentially affected by the proposed rule. Table 1 presents the number of facilities according to the latest RMP reporting as of December 31, 2020, by industrial sector and chemical use. These facilities range from petroleum refineries and large chemical manufacturers to 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 other sources, including Federal installations, that use RMP-regulated substances. Among the stationary sources potentially affected, the Agency has determined that 2,911 are regulated private sector small entities and 630 are small government entities.

Table 2 presents a summary of the annualized costs estimated in the regulatory impact analysis (RIA).[2] In total, EPA estimates annualized costs of $75.8 million at a 3% discount rate and $76.7 million at a 7% discount rate.

TABLE 2—SUMMARY OF ESTIMATED ANNUALIZED COSTS OVER A 10-YEAR PERIOD

[Millions, 2020 dollars]

Cost elements	Total undiscounted	Total discounted (3%)	Total discounted (7%)	Annualized (3%)	Annualized (7%)
Third-party Audits	$102.7	$87.6	$72.1	$10.3	$10.3
Root Cause Analysis	7.3	6.2	5.1	0.7	0.7
Safer Technology and Alternatives Analysis	518.2	442.0	364.0	51.8	51.8
Backup Power for Perimeter Monitors	0.4	0.4	0.4	**0.0	**0.0
Employee Participation Plan	8.6	7.3	6.0	0.9	0.9

[1] Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Rule Retrospection Under Executive Order 13990; Virtual Public Listening Sessions; Request for Public Comment; EPA–HQ–OLEM–2021–0312–0001.

[2] Regulatory Impact Analysis: Safer Communities by Chemical Accident Prevention: Proposed Rule (April 19, 2022).

TABLE 2—SUMMARY OF ESTIMATED ANNUALIZED COSTS OVER A 10-YEAR PERIOD—Continued

[Millions, 2020 dollars]

Cost elements	Total undiscounted	Total discounted (3%)	Total discounted (7%)	Annualized (3%)	Annualized (7%)
Community Notification System	38.0	32.4	26.7	3.8	3.8
Information Availability	30.3	25.8	21.3	3.0	3.0
Rule Familiarization	46.5	45.2	43.5	5.3	6.2
Total Cost*	751.8	646.8	538.8	75.8	76.7

*Totals may not sum due to rounding.
**Totals are zero due to rounding, Unrounded totals are $44,600 at 3% and $52,200 at 7% discount rates.

The largest annualized cost of the proposed rule is the safer technologies and alternatives analysis (STAA) provision ($51.8 million at both 3% and 7% discount rates), followed by third-party audits ($10.3 million at both 3% and 7% discount rates), rule familiarization ($5.3 million at a 3% discount rate and $6.2 million at a 7% discount rate), and information availability ($3.0 million at both 3% and 7% discount rates). The remaining provisions impose annualized costs under $1 million, including employee participation ($0.9 million at both 3% and 7% discount rates), root cause analysis ($0.7 million at both 3% and 7% discount rates), and emergency backup power for perimeter monitors (less than $0.1 million at both 3% and 7% discount rates).

The Agency has determined that among the 2,911 potentially regulated private sector small entities so impacted, 2,822, or 96.9 percent, may experience an impact of less than one percent with an average small entity cost of $10,618; and 84, or 2.9 percent, may experience an impact of between one and three percent of revenues with an average small cost entity of $108,921. Among the 630 small government entities potentially affected, 488, or 77 percent would incur costs of less than $1,000; 109, or 17 percent costs ranging from $1,000 to $2,000; 18, or 3 percent costs ranging from $2,000 to $3,000; and only one would incur costs greater than $10,000, and EPA estimated that for the rule to have a larger than one percent impact on this entity, it would need to have revenue of less than $103 per resident. For detailed costs by provision and NAICS code see Chapter 8 of the RIA.

EPA seeks further information on the estimated costs of these provisions and whether these costs should accrue to this proposal. EPA particularly requests cost data or studies related to the cost of practicability studies for conversion of hydrofluoric acid alkylation units to safer technologies. For more information see Chapter 4 of the RIA.

2. Baseline Damages

Accidents and chemical releases from RMP facilities occur every year. They cause fires and explosions, damage to property, acute and chronic exposures of workers and nearby residents to hazardous materials and result in serious injuries and fatalities. EPA is able to present data on the total damages that currently occur at RMP facilities each year. EPA presents the data based on a 5-year baseline period, summarizes RMP accident impacts and, when possible, monetizes them. EPA expects that some portion of future damages would be prevented through implementation of a final rule. Table 3 presents a summary of the quantified damages identified in the analysis.

TABLE 3—SUMMARY OF QUANTIFIED DAMAGES

[Millions, 2020 dollars]

	Unit value	5-year total	Average/ year	Average/ accident
On site				
Fatalities	$9.3	$111.6	$22.32	$0.23
Injuries	0.05	27.50	5.50	0.06
Property Damage	.....	2,031	406.20	4.16
Onsite Total	.....	2,170.10	434.02	4.45
Off site				
Fatalities	9.30	0.00	0.00	0.00
Hospitalizations	0.045	1.40	0.28	0.003
Medical Treatment	0.001	0.13	0.03	0.0003
Evacuations*	0.00	14.16	2.83	0.029
Sheltering in Place*	0.00	9.39	1.88	0.019
Property Damage	.....	191.53	38.31	0.39
Offsite Total	.....	216.61	43.32	0.44
Total	.....	2,386.71	477.34	4.89

*The unit value for evacuations and for sheltering in place are less than $300 so when expressed in rounded millions the value represented in the table is zero.

In total, EPA estimated monetized damages from RMP facility accidents of $477.3 million per year. These damages are divided into onsite and offsite categories where possible. EPA estimated total, average annual onsite damages from chemical releases at RMP facilities of $434.0 million. The largest monetized category was property damage, valued at $406.2 million. The next largest impacts were onsite fatalities ($22.3 million) and injuries ($5.5 million).

EPA estimated total, average annual offsite damages of $43.3 million. Property damage again was the highest value category, estimated at approximately $38.3 million. In decreasing order, the next largest average annual offsite impact was from evacuations ($2.8 million), then sheltering in place ($1.9 million), hospitalizations ($0.3 million), and medical treatment ($0.03 million).

3. Summary of Benefits

EPA anticipates that promulgation and implementation of this proposed rule would result in a reduced frequency and magnitude of damages from releases, including damages that are quantified in Table 3 such as fatalities, injuries, property damage, hospitalizations, medical treatment, sheltering-in-place and so on. EPA also expects that the proposed rule provisions would reduce baseline damages that are not quantified in Table 3 such as lost productivity, responder costs, property value reductions, damages from catastrophes, and so on. Although EPA was unable to quantify the reductions in damages that may occur as a result of the proposed rule provisions, EPA expects that a portion of future damages would be prevented by the proposed rule. Table 4 summarizes four broad social benefit categories related to accident prevention and mitigation, including prevention of RMP accidents, mitigation of RMP accidents, prevention and mitigation of non-RMP accidents at RMP facilities, and prevention of major catastrophes. The table explains each and identifies ten associated specific benefit categories, ranging from avoided fatalities to avoided emergency response costs.

TABLE 4—SUMMARY OF SOCIAL BENEFITS OF PROPOSED RULE PROVISIONS

Broad benefit category	Explanation	Specific benefit categories
Accident Prevention	Prevention of future RMP facility accidents	• Reduced Fatalities. • Reduced Injuries. • Reduced Property Damage.
Accident Mitigation	Mitigation of future RMP facility accidents	• Fewer People Sheltered-in-Place. • Fewer Evacuations. • Avoided Lost Productivity.
Non-RMP Accident Prevention and Mitigation	Prevention and mitigation of future non-RMP accidents at RMP facilities.	• Avoided Emergency Response Costs. • Avoided Transaction Costs.
Avoided Catastrophes	Prevention of rare but extremely high consequence events.	• Avoided Property Value Impacts.* • Avoided Environmental Impacts.
Information Availability	Provision of information to the public and emergency responders.	• Improved Efficiency of Property Markets. • Improved Resource Allocation.

* These impacts partially overlap with several other categories.

EPA seeks further information on the estimated benefits of these provisions. For more information see Chapter 6 of the RIA.

III. Background

A. Overview of EPA's Risk Management Program

EPA originally issued the RMP regulation in two stages. The Agency published the list of regulated substances and TQs in 1994: ''List of Regulated Substances and Thresholds for Accidental Release Prevention; Requirements for Petitions Under Section 112(r) of the Clean Air Act as Amended'' (59 FR 4478, January 31, 1994), hereinafter referred to as the ''list rule.'' [3] The Agency published the RMP final regulation, containing risk management requirements for covered sources, in 1996: ''Accidental Release Prevention Requirements: Risk Management Programs Under Clean Air Act Section 112(r)(7)'' (61 FR 31668, June 20, 1996), hereinafter referred to as the ''1996 RMP rule.'' [4] [5] Subsequent modifications to the list rule and the 1996 RMP rule were made as discussed in the 2017 amendments rule published in 2017 (''Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act''; 82 FR 4594, January 13, 2017, at 4600, hereinafter referred to as the ''2017 amendments rule''). Prior to development of EPA's 1996 RMP rule, the Occupational Safety and Health Administration (OSHA) published its Process Safety Management (PSM) standard in 1992 (57 FR 6356, February 24, 1992), as required by section 304 of the 1990 Clean Air Act Amendments (CAAA), using its authority under 29 U.S.C. 653. The OSHA PSM standard can be found in 29 Code of Federal Regulations (CFR) 1910.119. Both the OSHA PSM standard and EPA's RMP rule aim to prevent or minimize the consequences of accidental chemical releases through implementation of management program elements that integrate technologies, procedures, and management practices. In addition to requiring implementation of management program elements, the RMP rule requires any covered source to submit (to EPA) a document summarizing the source's risk management program—called a risk management plan (or RMP).

EPA's risk management program requirements include conducting a worst-case scenario analysis and a review of accident history, coordinating emergency response procedures with local response organizations, conducting a hazard assessment,

[3] Documents and information related to development of the list rule can be found in the EPA docket for the rulemaking, docket number A–91–74.

[4] Documents and information related to development of the 1996 RMP rule can be found in EPA docket number A–91–73.

[5] 40 CFR part 68 applies to owners and operators of stationary sources that have more than a TQ of a regulated substance within a process. The regulations do not apply to chemical hazards other than listed substances held above a TQ within a regulated process.

documenting a management system, implementing a prevention program and an emergency response program, and submitting a risk management plan that addresses all aspects of the risk management program for all covered processes and chemicals. A process at a source is covered under one of three different prevention programs (Program 1, Program 2, or Program 3) based directly or indirectly on the threat posed to the community and the environment. Program 1 has minimal requirements and is for processes that have not had an accidental release with offsite consequences in the last 5 years before submission of the source's risk management plan, and that have no public receptors within the worst-case release scenario vulnerable zone for the process. Program 3 applies to processes not eligible for Program 1, has the most requirements, and applies to processes covered by the OSHA PSM standard or classified in specified industrial sectors. Program 2 has fewer requirements than Program 3 and applies to any process not covered under Programs 1 or 3. Programs 2 and 3 both require a hazard assessment, a prevention program, and an emergency response program, although Program 2 requirements are less extensive and more streamlined. For example, the Program 2 prevention program was intended to cover in many cases simpler processes at smaller businesses and does not require the following process safety elements: management of change, pre-startup review, contractors, employee participation, and hot work permits. The Program 3 prevention program is fundamentally identical to the OSHA PSM standard and designed to cover those processes in the chemical industry.

B. Events Leading to This Action

On January 13, 2017, EPA published amendments to the RMP rule (82 FR 4594). The 2017 amendments rule was prompted by E.O. 13650, ''Improving Chemical Facility Safety and Security,'' [6] which directed EPA (and several other Federal agencies) to, among other things, modernize policies, regulations, and standards to enhance safety and security in chemical facilities. The 2017 amendments rule contained various new provisions applicable to RMP-regulated facilities addressing prevention program elements (safer technology and alternatives analysis (''STAA''); incident investigation root cause analysis; and third-party compliance audits), emergency response coordination with local responders (including emergency response exercises), and availability of information to the public. EPA received three petitions for reconsideration of the 2017 amendments rule under CAA section 307(d)(7)(B).[7] In December 2019, EPA finalized revisions to the RMP regulations to reconsider the rule changes made in January 2017 (''Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act,'' 84 FR 69834, December 19, 2019, hereinafter referred to as the ''2019 reconsideration rule''). The 2019 reconsideration rule rescinded certain information disclosure provisions of the 2017 amendments rule, removed most new accident prevention requirements added by the 2017 rule, and modified some other provisions of the 2017 amendments rule. The rule changes made by the 2019 reconsideration rule reflect the current RMP regulations to date. There are petitions for judicial review of both the 2017 amendments and the 2019 reconsideration rules. The 2019 reconsideration rule challenges are being held in abeyance until October 3, 2022, by which time the parties must submit motions to govern. The case against the 2017 amendments rule is in abeyance pending resolution of the 2019 reconsideration rule case.

On January 20, 2021, President Biden issued E.O. 13990, ''Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis.'' [8] E.O. 13990 directed Federal agencies to review existing regulations and take action to address priorities established by the current Administration, which include bolstering resilience to the impacts of climate change and prioritizing environmental justice (EJ). As a result, EPA was tasked to review the current RMP regulations.

While the Agency reviewed the RMP rule under E.O. 13990, the E.O. did not specifically direct EPA to publish a solicitation for comment or information from the public. Nevertheless, EPA held virtual public listening sessions on June 16 and July 8, 2021, and had an open docket for public comment (86 FR 28828; May 28, 2021). In the request for public comment, the Agency asked for information on the adequacy of revisions to the RMP regulations completed since 2017, incorporating consideration of climate change risks and impacts into the regulations and expanding the application of EJ. EPA received a total of 27,828 public comments in response to the request for comments. This includes 27,720 received at *regulations.gov*,[9] 35 provided during the listening session on June 16, 2021,[10] and 73 provided during the listening session on July 8, 2021.[11] Most of the comments received in the docket were copies of form letters related to four different form letter campaigns. The remaining comments included 302 submissions containing unique content. Of the 302 unique submissions, a total of 163 were deemed to be substantive (*i.e.,* the commenters presented both a position and a reasoned argument in support of the position). Information collected through these comments has informed the review.

EPA seeks comment on the proposed amendments. Any suggestions for alternative options should include an appropriate rationale and supporting data for the Agency to be able to consider it for a final action. To the extent submitted comments will repeat or rely on material submitted in the docket used for the 2017 amendments rule or the 2019 reconsideration rule, include the relevant material in the submitted comment with a specific reference to the portion of the material cited as support.

C. EPA's Authority To Revise the RMP Rule

Congress granted EPA authority to establish accident prevention rules under two provisions in CAA section 112(r)(7). Under CAA section 112(r)(7)(A), EPA may set rules addressing the prevention, detection, and correction of accidental releases of substances listed by EPA by rule (''regulated substances'' listed in the Tables 1 through 4 to 40 CFR 68.130). Such rules may include requirements related to monitoring, data collection, training, design, equipment, work practice, and operations. In promulgating its regulations, EPA may draw distinctions between types, classes, and kinds of facilities by taking into consideration various factors including size and location. This section also indicates that EPA has discretion regarding the date rules will take effect. Regulations become effective ''as determined by the Administrator,

[6] Available at *https://obamawhitehouse.archives.gov/the-press-office/2013/08/01/executive-order-improving-chemical-facility-safety-and-security.*

[7] Available at *https://www.epa.gov/petitions/petitions-office-land-and-emergency-management.*

[8] Available at *https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-protecting-public-health-and-environment-and-restoring-science-to-tackle-climate-crisis/.*

[9] EPA–HQ–OLEM–2021–0312.

[10] EPA–HQ–OLEM–2021–0312–0011.

[11] EPA–HQ–OLEM–2021–0312–0020.

assuring compliance as expeditiously as practicable.''

Under CAA section 112(r)(7)(B), Congress directed EPA to develop ''reasonable regulations and appropriate guidance'' that provide for the prevention and detection of accidental releases and the response to such releases ''to the greatest extent practicable.'' Congress required an initial rulemaking under this subparagraph by November 15, 1993. Section 112(r)(7)(B) sets out a series of mandatory subjects to address, interagency consultation requirements, and discretionary provisions that allowed EPA to tailor requirements to make them reasonable and practicable. The regulations needed to address ''storage, as well as operations'' and emergency response after accidental releases, and EPA was to use the expertise of the Secretaries of Labor and Transportation in promulgating the regulations. This provision gave EPA the discretion to recognize differences in factors such as ''size, operations, processes, class, and categories of sources'' and the voluntary actions taken by owners and operators of regulated sources to prevent and respond to accidental releases (CAA section 112(r)(7)(B)(i)). At a minimum, the regulations had to require any stationary source with more than a threshold quantity of regulated substances to prepare and implement a risk management plan (RMP). Such an RMP needed to provide for compliance with rule requirements under CAA section 112(r) and include a hazard assessment with release scenarios, an accident history, a release prevention program, and a response program (CAA section 112(r)(7)(B)(ii)). Plans were to be registered with EPA and submitted to various planning entities (CAA section 112(r)(7)(B)(iii)). These initial rules had to apply to sources 3 years after promulgation or 3 years after a substance was first listed for regulation under CAA section 112(r) (CAA section 112(r)(7)(B)(i)). EPA fulfilled its initial obligations under section 112(r)(7)(B) with the 1996 RMP rule, but the agency views section 112(r)(7)(B) to give EPA continuing authority to improve the RMP regulations to achieve the statutory directives.

In addition to the direction to use the expertise of the Secretaries of Labor and Transportation in CAA section 112(r)(7)(B), the statute more broadly requires EPA to consult with these secretaries when carrying out the authority of CAA section 112(r)(7) and to ''coordinate any requirements under [CAA section 112(r)(7)] with any requirements established for comparable purposes by'' OSHA (CAA section 112(r)(7)(D)). This consultation and coordination language derives from and expands upon provisions on hazard assessments in the bill that passed in the Senate as its version of what eventually became the 1990 CAAA, section 129(e)(4) of S.1630. The Senate committee report on this language notes that the purpose of the coordination requirement is to ensure that ''requirements imposed by both agencies to accomplish the same purpose are not unduly burdensome or duplicative.'' [12] The mandate for coordination in the area of safer chemical processes was incorporated into CAA section 112(r)(7)(D). In the same legislation, Congress directed OSHA to promulgate a process safety standard that became the PSM standard (see CAAA of 1990 section 304).

EPA used its authority under CAA section 112(r)(7) to issue the 1996 RMP rule (61 FR 31668; June 20, 1996), the 2017 amendments rule (82 FR 4594; January 13, 2017), and the 2019 reconsideration rule (84 FR 69834; December 19, 2019). The Agency is also implementing this authority in this proposed rulemaking. These proposed amendments address three requirements of the Risk Management Program: accident prevention program requirements, emergency preparedness requirements, and information availability requirements. The prevention program provisions in this rule address the prevention and detection of accidental releases and include the following topics: stationary source siting, safer technologies and alternatives analysis (STAA), root cause analysis incident investigation, third-party compliance auditing, and employee participation. The emergency response provisions in this rule modify existing provisions that provide for owner or operator responses to accidental releases. The information availability provisions discussed in this document generally assist in the development of emergency response procedures and measures to protect human health and the environment after an accidental release (CAA section 112(r)(7)(B)(i)).[13] When determining which amendments would result in the prevention and detection of accidental releases of regulated substances to the greatest extent practicable, EPA took into consideration multiple factors including—but not limited to—the size of the facility, the quantity of the substances handled, and the location of the facility in relation to other RMP facilities in accordance with both CAA sections 112(r)(7)(A) and (B)(i). The rule distinguishes among classes and categories of sources by industry and process type, as well as likelihood of an accidental release that may impact a community. This rulemaking action therefore proposes substantive amendments to 40 CFR part 68 and is authorized by CAA section 112(r)(7)(A) and (B), as explained herein.

In considering whether it is legally permissible for EPA to modify provisions of the RMP rule while continuing to meet its obligations under CAA section 112(r), the Agency notes that it has made discretionary amendments to the 1996 RMP rule several times without dispute over its authority to issue discretionary amendments. (See 64 FR 964, January 6, 1999; 64 FR 28696, May 26, 1999; 69 FR 18819, April 9, 2004.) According to the decision in *Air Alliance Houston* v. *EPA,* 906 F.3d 1049 (D.C. Cir. 2018), ''EPA retains the authority under Section 7412(r)(7) [CAA section 112(r)(7)] to substantively amend the programmatic requirements of the [2017 RMP amendments] . . . subject to arbitrary and capricious review'' (906 F.3d at 1066). Therefore, EPA is authorized to modify the provisions of the current RMP regulations if it finds that it is reasonable to do so.[14]

The Supreme Court has also recognized that agencies have broad discretion to reconsider a regulation at any time so long as the changes in policy are ''permissible under the statute, . . . there are good reasons for [them], and that the agency *believes* [them] to be better'' than prior policies. (See *Federal Communications Commission* v. *Fox Television Stations, Inc.,* 556 U.S. 502, 515 (2009); emphasis

[12] Committee on Environment and Public Works, *Clean Air Act Amendments of 1989: Report of the Committee on Environment and Public Works, U.S. Senate, Together with Additional and Minority Views, to Accompany S.1630* (December 20, 1989), *https://www.regulations.gov/document/EPA-HQ-OEM-2015-0725-0645.* EPA–HQ–OEM–2015–0725–0645.

[13] Incident investigation, compliance auditing, and STAA are also authorized as release prevention requirements pertaining to stationary source design, equipment, work practice, recordkeeping, and reporting. Information disclosure is also authorized as reporting (CAA section 112(r)(7)(A)).

[14] *See Motor Vehicle Manufacturers. Association of the United States, Inc.* v. *State Farm Mutual Automobile Ins. Co.,* 463 U.S. 29 (1983). In addressing the standard of review to reconsider a regulation, the Supreme Court stated that the rescission or modification of safety standards ''is subject to the same test'' as the ''agency's action in promulgating such standards [and] may be set aside if found to be 'arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law' '' (463 U.S. at 41, quoting 5 U.S.C. 706). The same standard that applies to the promulgation of a rule applies to the modification or rescission of that rule.

in quote original).[15] As explained in detail above, the policy changes proposed in this action are permissible under the statute. Additionally, there are good reasons for the policies adopted in this rule. Accidental releases remain a significant concern to communities and cost society more than $477 million yearly.[16] The risk of being impacted by an accidental release is even more apparent in communities where multiple RMP facilities are in close proximity to residential areas. Lowering the probability and magnitude of accidents by putting more of a focus on prevention reduces the risks posed by these RMP facilities, which is one of the objectives of the present RMP proposed amendments.

In the 2019 reconsideration rule, the Agency justified rescinding the prevention program provisions of the 2017 amendments rule, STAA, incident investigation, root cause analysis, and third party compliance audits based on two main rationales: (1) That a case-by-case compliance-driven approach to oversight focusing on problematic sources (generally, sources that have had releases) could obtain many of the accident-reduction benefits of a rule without broadly burdening sources that were less likely to have a release under regulatory mandates, and (2) that the Agency was being consistent with the OSHA PSM prevention provisions. The Agency discusses each rationale in turn below.

The conclusion in the 2019 reconsideration rule that a case-by-case, compliance-driven approach relying on traditional tools such as compliance outreach and administrative and judicial enforcement could provide many of the same benefits as a rule without imposing broad burdens rested upon an observation that accidents are declining and concentrated among few sources, allowing for concentrated compliance oversight. See 84 FR 69843–44 (Dec. 19, 2019). While focusing on accident and impact rates, the rate analysis did not account for the likelihood that low-probability, high consequence events could impact trends. Thus, in the 2019 reconsideration rule, EPA acknowledged the decline in yearly total count of accidents and accident rates. For the 2017 amendments rule and 2019 reconsideration rule, EPA analyzed accidents for the periods 2004 to 2013, and 2014 to 2016, respectively.[17] Using a yearly average for the 2017 amendments rule (2004–2013) and the 2019 reconsideration rule (2014–2016), in 2019 EPA found declining yearly averages for every metric of onsite and offsite damage.[18] As part of this proposed rule, EPA analyzed accidents from 2016 to 2020.[19] The impacts of high consequence RMP-reportable accident events between 2017 and 2020 demonstrate the impact of low-probability, high consequence events on annual averages. For example, using the same methods used in the 2019 rule, current data show the average annual rate of those seeking medical treatment increased by 230% (10 per year in the 2019 reconsideration rule and 33 per year for this proposed rule); evacuations increased by 75% (1,868 per year versus 3,268 per year) and accidents resulting in sheltering in place increased by 18% (12,534 per year versus 14,845 per year). The more current data since the 2019 analyses shows that reliance on a declining trend in accidents and impacts to conduct selective, often post-incident oversight may prove insufficiently effective over time and make it difficult to stay ahead of reversals in trends.

Recent accidents also highlight EPA's improper reliance on only annual count of total accidents to address the low-probability, high-consequence nature of accidental releases. For example, while the annual count of accidents decreased overall between 2016 and 2020, in 2019, the TPC Group explosion and fire in Port Neches, Texas, reported the largest number of persons ever evacuated (n=50,000) as a result of an RMP-reportable incident, as well as $153 million in offsite property damage. Large events are rare, but to the extent that CAA 112(r) was intended as a prevention program for large catastrophic releases, selective oversight through a ''compliance-driven'' approach that relies heavily on determining if the facility was compliant with accident prevention regulations after an accident occurred would not meet the goal of preventing the initial accident. The RMP rule must be broader based, and rule-driven in order to have stationary sources handling dangerous chemicals work to prevent potentially catastrophic incidents.

Additionally, the 2019 reconsideration rule failed to acknowledge that mostly relying on relief like post-accident settlement, particularly at those industries that already have a history of frequent accidents, entails significant transaction costs, delays, and uncertainty of obtaining necessary prevention improvements. While such delays and transaction costs are inherent in compliance oversight and the enforcement process, the failure of the 2019 reconsideration rule to address this important limitation on the feasibility and utility of a ''compliance-driven'' approach is a flaw in the determination made in 2019 that such an approach is a reasonable substitute for a rule-driven approach to prevention. While enforcement of the RMP regulation has and will continue to occur, EPA expects under a rule-drive approach most facilities will proactively make the necessary prevention improvements to be in compliance with the rule to avoid enforcement. The 2019 reconsideration rule does not acknowledge that settlements often involve compromises, and that, in the course of settlement, EPA cannot always obtain all appropriate relief. The history of one of EPA's largest enforcement actions under the RMP rule involving Chevron's operations illustrates many of these points. EPA's enforcement engagement with Chevron began shortly after a fire at the Richmond, CA, refinery in August 2012. Subsequent accidents at Chevron refineries in El Segundo, CA, and Pascagoula, MS, led EPA to investigate all five Chevron refineries in the United States, including refineries in Salt Lake City, UT and Kapolei, HI (no longer owned by Chevron). EPA concluded a final civil judicial settlement with Chevron in October 2018, more than 6 years after the investigation began.[20]

Moreover, as discussed in more detail below, even when individual facilities have not yet experienced an accident, certain classes of facilities are more likely to have accidents near communities. Communities surrounding these classes of facilities would benefit from rule-based prevention prior to

[15] The full quote from Fox states: ''But [the Agency] need not demonstrate to a court's satisfaction that the reasons for the new policy are *better* than the reasons for the old one; it suffices that the new policy is permissible under the statute, that there are good reasons for it, and that the agency *believes* it to be better, which the conscious change of course adequately indicates'' (*Federal Communications Commission* v. *Fox Television Stations, Inc.,* 556 U.S. at 515; emphasis original).

[16] A full description of costs and benefits for this proposed rule can be found in the Regulatory Impact Analysis: Safer Communities by Chemical Accident Prevention: Proposed Rule (April 19, 2022). This document is available in the docket for this rulemaking (EPA–HQ–OLEM–2022–0174).

[17] Exhibit 6–2, Page 77, EPA–HQ–OEM–2015–0725–2089.

[18] The exception being a higher annual average offsite property damage for the period of 2014–2016 as compared to 2004–2013.

[19] In the RIA for this proposed rule, EPA includes 2016 again to account for accidents not reported prior to the 2019 reconsideration rule analysis.

[20] U.S. Environmental Protection Agency, *Chevron Settlement Information Sheet, https://www.epa.gov/enforcement/chevron-settlement-information-sheet.*

incidents, rather than the case-by-case oversight approach of the 2019 reconsideration rule.

Regarding alignment with OSHA PSM prevention provisions, the 2019 reconsideration rule indicated that the 2017 amendments rule only represented a departure from PSM requirements. The 2019 reconsideration rule acknowledged there were no legal requirements to defer to OSHA in rulemaking, or for EPA and OSHA to proceed on identical timelines in making changes to the RMP rule and PSM standard, and that some divergence between the RMP rule and PSM standard may at times be necessary given the agencies' separate missions. See 83 FR 24863–64. While EPA, in the 2019 reconsideration rule, decided to take a traditional approach of maintaining consistency with OSHA PSM because benefits were recognized at that time, EPA now believes the benefits of a rule-based prevention for certain high-risk classes of facilities could help prevent high consequence accidents that affect communities, such as the TPC Group explosion. Furthermore, the statute's consult-and-coordinate requirements are to ensure the agencies are working together to ensure rules are compatible and not conflicting. The proposed prevention program provisions presented today are compatible and do not conflict with the prevention provisions of OSHA PSM, as detailed further in the discussions of each provision.

In contrast to the 2019 approach, the approach taken in this proposal for the prevention program provision, STAA, incident investigation root cause analysis, and third-party compliance audits, refines the focused regulatory approach found in the 2017 amendments rule, and proposes provisions modified from those in the 2017 amendments rule, to better identify risky facilities to prevent accidental releases before they can occur. As explained in further detail in following sections of this preamble, EPA therefore maintains that by taking a rule-based, prevention-focused approach in this action rather than the 2019 reconsideration rule's compliance-driven, mostly post-incident, approach, the proposed rule revisions could further protect human health and the environment from chemical hazards through PSM advancement without undue burden. Similarly, other proposed modifications to approaches adopted in 2019 to information disclosure and emergency response will also better balance security concerns with improved community awareness and lead to better community preparedness for accidents.[21] To the extent that both approaches are reasonable, the approach of this proposed rule would be more protective, and thus provide for release prevention, detection, and response ''to the greatest extent practicable'' among the reasonable approaches.

IV. Proposed Action

The RMP rule has been effective in preventing and mitigating chemical accidents in the United States and protecting human health and the environment from chemical hazards, but major accidents continue to occur. More importantly, even though there has been a long-term trend of reducing accidents and the gravity of accidents, this trend can be improved to further protect human health and the environment.

Below EPA presents several proposed amendments for consideration and public comment. Many of these amendments would better focus new prevention program elements on particular classes of facilities than the 2017 amendments rule, and promote more information availability, employee participation and emergency response measures than the 2019 reconsideration rule. As a result of the changes in this proposal, the Agency, as described in further detail below, considered the possibility of potential reliance interests associated with portions of the 2019 reconsideration rule. The Agency views these proposed measures and other aspects of this proposed rule as integrated and reinforcing. As discussed below, some of the proposed rule changes focus enhanced prevention measures like STAA and third-party auditing on individual sources and classes of sources with a history of accidental releases. Were the proposed rule adopted, EPA believes that many if not most sources are likely to respond to this approach of triggering requirements based on accident history by undertaking enhanced prevention measures to comply with the rule and avoid accidents. However, some sources may try to evade these enhanced accident prevention requirements by avoiding reporting incidents that trigger additional requirements. The employee participation, public information availability, and emergency response measures would make it more difficult to evade the accident history-triggered requirements by leveraging workers and the public in facility oversight. Thus, in addition to the merits of each proposed provisions as considered in isolation, the proposed rule changes can be seen as complementary to each other. Adopting these provisions together will help ensure owners and operators have these complementing measures in place to prevent or minimize accidental release of their regulated substances to protect human health and the environment. Nevertheless, while many of the provisions reinforce each other, EPA also views each one as merited on its own if it ultimately adopted, and thus severable should there be judicial review.

A. Prevention Program

1. Hazard Evaluation Amplifications

a. Introduction

A hazard evaluation is defined as the identification of individual hazards of a system, determination of the mechanisms by which they could give rise to undesired events, and evaluation of the consequences of these events on health (including public health), environment, and property. These evaluations often use qualitative techniques to pinpoint weaknesses in the design and operation of facilities that could lead to incidents.[22] Current requirements exist within the RMP rule to conduct these evaluations. RMP hazard evaluation regulations require, among other things, owners or operators with Program 2 processes to conduct hazard reviews under 40 CFR 68.50(a) that identify: (1) The hazards associated with the process and regulated substances; (2) opportunities for equipment malfunctions or human errors that could cause an accidental release; (3) the safeguards used or needed to control the hazards or prevent equipment malfunction or human error; and (4) any steps used or needed to detect or monitor releases. Owners or operators with Program 3 processes are required to conduct process hazard analyses (PHAs) under 40 CFR 68.67(c) that address: (1) The hazards of the process; (2) the identification of any previous incident which had a likely potential for catastrophic consequences; (3) engineering and administrative controls applicable to the hazards and their interrelationships, such as appropriate application of detection methodologies to provide early warning of releases (acceptable detection methods might include process monitoring and control instrumentation

[21] The term ''information disclosure'' refers to specific provisions adopted in 2017 that the 2019 reconsideration rule rescinded. EPA uses the term ''information availability'' in the current rulemaking to mean the broader set of measures the Agency is adopting today.

[22] Center for Chemical Process Safety (CCPS), ''CCPS Process Safety Glossary,'' accessed January 28, 2022, *https://www.aiche.org/ccps/resources/glossary?title=hazard+evaluation#views-exposed-form-glossary-page.*

with alarms, and detection hardware such as hydrocarbon sensors); (4) consequences of failure of engineering and administrative controls; (5) stationary source siting; (6) human factors; and (7) a qualitative evaluation of a range of the possible safety and health effects of failure of controls. The hazard evaluation requirements are key to understanding how to operate safely and prevent accidents and the release of hazardous substances.

In developing the initial 1996 RMP rule, the Agency recognized that many workplace hazards also threaten public receptors and that most accident prevention steps taken to protect workers also protect the public and the environment. Consequently, EPA adopted and built on much of the existing accident prevention language from OSHA's PSM standard, including the process hazard analysis (PHA) language from 29 CFR 1910.119(e). EPA's understanding of the PHA was based on OSHA's: [23] a PHA analyzes potential causes and consequences of fires, explosions, releases of toxic or flammable chemicals, and major spills of hazardous chemicals. The PHA focuses on equipment, instrumentation, utilities, human actions (routine and nonroutine), and external factors that might impact the process. These considerations assist in determining the hazards and potential failure points or failure modes in a process. OSHA pointed to detailed industry guidance that serves as the basis for understanding what hazards are widely recognized as threats to safe chemical process operations. For example, the American Institute of Chemical Engineers' Center for Chemical Process Safety (CCPS) developed the publication ''Guidelines for Hazard Evaluation Procedures,'' [24] which EPA and OSHA agree generally addresses the most common categories of hazards relevant to facilities that handle hazardous chemicals.

While EPA and OSHA have not explicitly added language in their regulations on certain hazard evaluation elements that were assumed implicit and recognized as hazards among industry, EPA seeks to emphasize that some hazards should be explicitly addressed by facilities to further protect human health and the environment. EPA is not proposing additional regulatory requirements from what already exists in the RMP regulations, rather EPA is proposing adding regulatory text to emphasize that natural hazards and loss of power are among the hazards that must be addressed in hazard reviews and PHAs. EPA is also proposing to emphasize that facility siting should be addressed in hazard reviews, and to explicitly define the facility siting requirement for Program 2 and Program 3 hazard evaluations. EPA seeks to better reflect its longstanding regulatory requirement rather than impose additional regulatory requirements (and potential additional costs) that diverge from the OSHA PSM regulatory requirements. EPA has coordinated with OSHA throughout the development of this proposed rule to ensure the intent of adding specificity to these hazard evaluation requirements is consistent with the intent and meaning of the OSHA PSM standard to avoid inconsistencies between the two regulatory programs.

b. Natural Hazards

Natural hazards (*e.g.,* extreme temperatures, high winds, floods, earthquakes, wildfires) are hazards for chemical facilities because they have the potential to initiate accidents and challenge hazardous chemical process equipment and operations. If not properly managed, these hazards can trigger chemical accidents that threaten human health and the environment. EPA believes many facilities with RMP processes are generally managing natural hazards well; however, some RMP accidents are still being reported as linked to natural hazards. Climate change increases the threat of extreme weather as a natural hazard. Therefore, EPA is proposing to emphasize that natural hazards should explicitly be included in the hazards evaluated in hazard reviews and PHAs for Program 2 and Program 3 RMP-regulated processes. EPA believes making more explicit this already-existing accident prevention program requirement [25] will ensure the threats of natural hazards are properly evaluated and managed to prevent or mitigate releases of RMP-regulated substances at covered facilities.

CCPS' ''Guidelines for Hazard Evaluation Procedures'' [26] includes external events as a hazard evaluation category that should be addressed. It defines these as events external to the system/plant caused by: (1) A natural hazard (*e.g.,* earthquake, flood, tornado, extreme temperature, lightning) or (2) a human induced event (aircraft crash, missile, nearby industrial activity, fire, sabotage, *etc.*). At the time of initial RMP rule development, EPA had not explicitly added language about considering external events to the rule. However, EPA did acknowledge that sources must consider the hazards created by external events. In the 1996 RMP final rule Response to Comments,[27] EPA indicated the following: ''As part of a properly conducted PHA, sources would normally consider whether a process is vulnerable to damage caused by external events, such as earthquakes, floods, high winds, and evaluate the potential consequences if such events damaged the integrity of the process.'' To further express this expectation, EPA's RMP guidance states: ''Natural Events and Other Outside Influences: Whichever [hazard review/process hazard analysis] approach you use, you should consider reasonably anticipated external events as well as internal failures. If you are in an area subject to earthquakes, hurricanes, or floods, you should examine whether your process would survive these natural events without releasing the substance. In your hazard review, you should consider the potential impacts of lightning strikes and power failures.'' [28] In comments submitted during the 2021 listening sessions,[29] some industry trade associations stated that the current provisions of the RMP rule are sufficient to protect against climate-related impacts.[30] Specifically, one industry trade association remarked that ''under requirements in the current program, the impact of severe weather events such as storms and flooding on operations and consequently the risk they pose for an accidental release, must already be considered and addressed in the plans submitted to EPA.'' [31]

Despite this general knowledge that natural hazards are process hazards that should be evaluated and addressed during hazard reviews and PHAs, EPA's recent review of the RMP National Database indicates that when reporting accidents, some RMP facilities report ''natural'' and ''unusual weather conditions'' as the respective initiating event or as a contributing factor to their

[23] See 58 FR 54190, October 20, 1993, p. 54204.

[24] CCPS, *CCPS Guidelines for Hazard Evaluation Procedures, 3rd Edition* (New York: American Institute of Chemical Engineers, 2008).

[25] Existing requirements of the hazards to be evaluated in hazard evaluations are found at 40 CFR 68.50(a) for Program 2 processes and at 40 CFR 68.67(a)–(c) for Program 3 processes.

[26] CCPS, *CCPS Guidelines for Hazard Evaluation Procedures, 3rd Edition* (New York: American Institute of Chemical Engineers, 2008).

[27] A–91–73–IX–C–1-Volume-1[H], pp. 9–23.

[28] EPA, General Guidance on Risk Management Programs for Chemical Distributors, Ch. 6: Prevention Programs (2004), pp. 6–10 to 6–11, *https://www.epa.gov/sites/default/files/2013-11/documents/chap-06-final.pdf.*

[29] EPA–HQ–OLEM–2021–0312.

[30] EPA–HQ–OLEM–2021–0312–0005; 0045.

[31] EPA–HQ–OLEM–2021–0312–0005.

accidents.[32] According to the Agency's data from 2004–2020, facilities reported 38 RMP-reportable accidents as having a natural cause as the initiating event of their accident and another 46 RMP-reportable accidents as having unusual weather conditions as a contributing factor of their accident.[33]

In addition to these natural hazard-linked accidents, RMP data indicate that the locations of many RMP facilities leave them exposed to natural hazards. In a review of the National Oceanic and Atmospheric Administration's Storm Events Database from the last two decades, EPA generally found that extreme weather events are common in counties with RMP facilities. For example, during 2000–2020, over 90 percent of counties with RMP facilities experienced flooding, 1 in 4 counties with RMP facilities suffered damage from hurricanes, and counties with RMP facilities have on average experienced 30 floods (over one per year) and 40 extreme winter weather events (approximately two per year), such as blizzards. Some counties with RMP facilities also experience extreme weather events much more often than average. For instance, many regions in Florida, Louisiana, and South Carolina were impacted by more than 30 hurricanes over the prior 20 years. Similarly, regions of northern California and Oregon suffered from over 500 days of wildfires during the same period.[34]

With new studies showing that the threat of natural hazards is increasing, actions to ensure natural hazards are evaluated and properly managed are critical. A recent report by the Center for Progressive Reform, Earthjustice, and the Union of Concerned Scientists—entitled ''Preventing 'Double Disasters'' [35]—indicates that one-third of RMP facilities are at risk of climate-related events, such as wildfire, flooding, hurricane storm surge, and/or coastal flooding. This finding is nearly identical to the estimate of the Government Accountability Office in its recent report, ''Chemical Accident Prevention: EPA Should Ensure Regulated Facilities Consider Risks from Climate Change.'' [36] The 2018 National Climate Assessment [37] and several publications from the Intergovernmental Panel on Climate Change, which are authoritative sources for the impacts of climate change on the severity and frequency of weather events, found that there is a scientific consensus that the future holds increased risks of more severe and frequent extreme weather events, including tropical cyclones, coastal flooding, wildfire, tornados, severe thunderstorms, and extreme precipitation. EPA must consider the increased risk to RMP facilities.

The Chemical Safety and Hazard Investigation Board (CSB) and many public listening session commenters identified the August 2017 Arkema Inc. chemical plant fire in Crosby, Texas, as a significant accident caused by natural hazards.[38] [39] [40] Flooding from Hurricane Harvey disabled the refrigeration system at the Arkema plant, which allowed the temperature of organic peroxides to increase and spontaneously combust. Twenty-one people sought medical attention from reported exposures to the fumes. More than 200 residents living near the facility were evacuated and could not return home for a week. While this part of the Arkema facility was not an RMP-regulated process, the increased occurrence of extreme-weather-caused events like this highlight the importance of ensuring proper evaluation of natural hazards on process operations.

As a result of the Arkema incident, CSB developed a safety alert that includes guidance for chemical plants during extreme weather events.[41] In the final report on the Arkema incident,[42] CSB recommended CCPS develop broad and comprehensive guidance to help companies assess their U.S. facility risk from potential extreme weather events. As a result, CCPS produced the monograph, ''Assessment of and Planning for Natural Hazards.'' [43] In addition to outlining the importance of rising threats, it outlines resources that many of its member companies—many of which have RMP-regulated processes—have successfully used to identify natural hazards, gather data and identify equipment to be addressed in natural hazard assessments, and evaluate and meet design criteria of equipment according to recognized and generally accepted good engineering practices (RAGAGEP).

With climate change-related natural hazards as a global concern, other countries are also expanding efforts to address natural hazards at chemical facilities. For example, the Organisation for Economic Co-operation and Development Programme on Chemical Accidents started work on natural hazards triggering technological accidents (''NaTech'') risk management in 2008 in partnership with the European Commission Joint Research Center, the United Nations Environment Programme, and the United Nations Economic Commission for Europe. The project aimed to investigate NaTech prevention, preparedness, and response to chemical accidents; exchange experience across countries; and provide guidance on NaTech risk management. Studies, databases, and information continue to be collected and published to help countries manage this increasing threat.[44]

While well-prepared hazard evaluations under the RMP rule already address NaTech, EPA is proposing to emphasize that natural hazards, including those associated with climate change, be explicitly addressed in RMP Program 2 hazard reviews and Program 3 PHAs. EPA is proposing to make language changes that include requiring hazard evaluations under 40 CFR 68.50(a)(5) and 68.67(c)(8) to address external events such as natural hazards, including those caused by climate change or other triggering events that could lead to an accidental release.

EPA is also proposing to define natural hazards in a way that is similar

[32] These fields are options when reporting accidents on RMP reports. Description of these options: EPA, *Risk Management Plan: RMP*eSubmit User's Manual* (2019), pp. 76–77. *https://www.epa.gov/sites/default/files/2019-03/documents/rmpesubmit_user_guide_-_march_2019_final_0.pdf.*

[33] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

[34] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

[35] David Flores, et al., *Preventing ''Double Disasters''* (2021), *https://www.ucsusa.org/sites/default/files/2021-07/preventing-double-disasters%20FINAL.pdf.*

[36] U.S. Government Accountability Office, *Chemical Accident Prevention: EPA Should Ensure Regulated Facilities Consider Risks from Climate Change* (2022), *https://www.gao.gov/assets/gao-22-104494.pdf.*

[37] U.S. Global Change Research Program, *Fourth National Climate Assessment* (2018), *https://nca2018.globalchange.gov/.*

[38] CSB, ''Arkema Inc. Chemical Plant Fire,'' last modified May 24, 2018, *https://www.csb.gov/arkema-inc-chemical-plant-fire-/.*

[39] Center for Progressive Reform, *Preventing Double Disasters* (2021), *https://www.regulations.gov/comment/EPA-HQ-OLEM-2021-0312-0035.* EPA–HQ–OLEM–2021–0312–0035–10.

[40] EPA–HQ–OLEM–2021–0312–0004; 0080, 0081.

[41] CSB, *2020 Hurricane Season: Guidance for Chemical Plants during Extreme Weather Events* (n.d.), *https://www.csb.gov/assets/1/6/extreme_weather_-_final_w_links.pdf.*

[42] CSB, ''Arkema Inc. Chemical Plant Fire,'' last modified May 24, 2018, *https://www.csb.gov/arkema-inc-chemical-plant-fire-/.*

[43] CCPS, *CCPS Monograph: Assessment of and Planning For Natural Hazards* (American Institute of Chemical Engineers, 2019), *https://www.aiche.org/sites/default/files/html/536181/NaturalDisaster-CCPSmonograph.html.*

[44] Organisation for Economic Co-operation and Development, ''Risks from Natural Hazards at Hazardous Installations (Natech),'' accessed January 28, 2022, *https://www.oecd.org/chemicalsafety/chemical-accidents/risks-from-natural-hazards-at-hazardous-installations.htm.*

to the description used by CCPS. Under the proposed rule, natural hazards would be defined as naturally occurring events with the potential for negative impacts, including meteorological hazards due to weather and climactic cycles, as well as geological hazards. EPA seeks comment on this approach.

EPA continues to expect facilities to utilize all available resources to properly evaluate what natural hazards could potentially trigger accidental releases from their regulated processes. EPA understands that natural hazards and process operations vary throughout the United States. However, because the RMP rule is performance-based, EPA believes that all regulated RMP facilities can be successful in addressing natural hazards within their risk management programs. Because natural hazards continue to be a factor in RMP accidents and present a growing threat to process safety at RMP facilities, a requirement to evaluate and control natural hazards should be explicitly stated in the RMP regulation. While EPA will continue to rely on available industry guidance to evaluate compliance with this provision, the Agency requests public comment on whether EPA should develop additional guidance (beyond the Agency's existing RMP general guidance for risk management programs)[45] to help regulated facilities comply with this provision. EPA is particularly interested in comments related to suggested information resources such as databases, checklists, or narrative discussions, as well as commenters' recommendations for regional versus national, or sector-specific guidance.

As an alternative to the preferred approach, EPA seeks comment on whether to specify areas most at risk from climate or other natural events by adopting the list of areas exposed to heightened risk of wildfire, flooding, storm surge, or coastal flooding identified in, ''Preventing Double Disasters,'' discussed above. EPA could also add areas prone to earthquake to this list of areas, which presents a significant risk of NaTech that is unrelated to climate. Would this more definite, but limited, approach be easier to implement for stationary sources? Would this be simpler for public oversight by providing a specific reference such that all parties would know whether there is a heightened risk for a potential climate or earthquake impact at a facility? Should the Agency require sources in these areas to conduct hazard evaluations associated with climate or earthquakes as a minimum, while also requiring that all sources consider the potential for natural hazards unrelated to climate or earthquakes in their specific locations?

c. Power Loss

Whether caused by a natural hazard or some other event, power loss at hazardous chemical facilities can lead to a variety of negative impacts. Pumps and compressors may stop running, stirrers may quit mixing, lights may go out, and instruments and controls may malfunction. These equipment outages can lead to tank overflows, runaway chemical reactions, temperature or pressure excursions, or other process upsets which could lead to a spill, explosion, or fire. Even if there is no immediate release, thermal shock or other factors could result in a delayed effect that compromises the mechanical integrity of equipment during subsequent operations. When power is restored even after a brief interruption, some equipment may automatically restart before process operations are ready, while other equipment may need to be reset and manually restarted. When a facility relies on electrical power for any aspect of its process operations, it is imperative to anticipate how power loss affects the safeguards that prevent releases of hazardous chemicals.

Power loss has resulted in serious accidents at RMP-regulated facilities. The aforementioned 2017 Arkema incident highlighted the hazard of power loss on process safety; other previous incidents have also highlighted this hazard and offered lessons on potential safeguards that could be applied to prevent accidental chemical releases. The accidents described below—all associated with power failure—are examples of these situations and their potential severity. They also highlight the in-depth evaluation needed to prevent loss of power from resulting in an accidental release.

On May 1, 2001, at General Chemical Corp., in Richmond, California, a truck struck a utility pole, causing a power interruption and total plant shutdown. Shortly after, sulfur dioxide and sulfur trioxide began to escape from a boiler exit flue. When power was restored a short time later, a steam turbine that was required to keep the boiler exit flue under negative pressure could not be immediately restarted. While the turbine could not be restarted, residents near the plant were instructed to remain indoors. Somewhere between 50 to 100 individuals sought medical attention following the release. Troubleshooting revealed that an automatically controlled governor valve had malfunctioned.[46]

On August 23, 2010, at the Millard Refrigerated Services in Theodore, Alabama, hydraulic shock caused a roof-mounted suction pipe to catastrophically fail, leading to the release of more than 32,000 pounds of anhydrous ammonia. The hydraulic shock occurred during the restart of the plant's ammonia refrigeration system following a 7-hour power outage. Downwind of the ammonia release were crew members on the ships docked at Millard and over 800 contractors working outdoors at a clean-up site for the Deepwater Horizon oil spill. Nine ship crew members and 143 of the offsite contractors downwind reported exposure. Of the victims, 32 required hospitalization and four were placed in intensive care.[47]

National Response Center data also include information on 3,077 reported accidents from 2004–2020 that were associated with power loss.[48] While most of these incidents did not involve RMP chemicals, processes, or accidental releases as defined in CAA 112(r)(2), these events demonstrate a connection between the loss of power, loss of containment, and release into the environment.

The European Union published a 2021 bulletin that presents lessons learned from incidents worldwide involving power supply failures. The findings point to the importance of understanding the scenarios triggered by a primary failure in external power supply systems, power loss attributed to failures of onsite electrical equipment or electrical components, and even failures of redundant power supplies. In addition to providing statistics on the effects of power outages at chemical facilities, data provided by the European Union indicate that power failures at hazardous sites have resulted in 21 fatalities and over 9,500 injuries worldwide since 1981, as well as significant property damage and production loss from resulting fires and explosions. The most catastrophic event in the study occurred in Sakai (Osaka),

[45] EPA, ''Guidance for Facilities on Risk Management Programs (RMP),'' last modified December 20, 2021, *https://www.epa.gov/rmp/guidance-facilities-risk-management-programs-rmp#general.*

[46] EPA, *Chemical Accidents from Electric Power Outages* (Office of Solid Waste and Emergency Response, 2001), *https://www.epa.gov/sites/default/files/2013-11/documents/power.pdf.*

[47] CSB, ''Millard Refrigerated Services Ammonia Release,'' last modified January 15, 2015, *https://www.csb.gov/millard-refrigerated-services-ammonia-release/.*

[48] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

Japan, in 1982. It killed six people, injured 9,080 others (of which 8,876 were offsite), and destroyed 1,788 buildings.[49]

EPA has long recognized that loss of power can threaten hazardous chemical processes and cause accidental releases if not properly managed. While EPA did not specifically require power loss to be evaluated for Program 2 and Program 3 hazard reviews and PHAs, EPA and OSHA guidance has referred to it. In addition to acknowledging power failure in the Agency's ''General Guidance on Risk Management Programs for Chemical Distributors,'' [50] in 2001 EPA issued the safety alert, ''Chemical Accidents from Electric Power Outages.'' [51] These guidelines warned RMP facilities that power outages and restarts could potentially trigger serious chemical accidents. The alert outlined some of the accidents previously discussed and warned that process operations must be evaluated for the consequences of power outages to ensure that the process remains safe. It also indicates that if there is critical equipment that needs to operate to ensure the safety of the process or work area, facilities should install backup power supplies and services.

In 2008, OSHA published an interpretation letter [52] that addressed the concern about utility systems and their evaluation within the scope of PSM. OSHA indicated that the proper, safe functioning of all aspects of a process, whether they contain a highly hazardous chemical [53] or not, are important for the prevention and mitigation of catastrophic releases of highly hazardous chemicals. OSHA's position is that any engineering control (including utility systems) which does not contain a highly hazardous chemical (HHC) but can affect or cause a release of an HHC or interfere in the mitigation of the consequences of a release must be, at a minimum, evaluated, designed, installed, operated (with appropriate training and procedures), changed, and inspected/tested/maintained per OSHA PSM requirements. OSHA provided the example of an employer that identifies, through its PHA, that safe operation of its covered process relies on the electrical utility system. In response, the employer could determine that an uninterruptible power supply would be an appropriate safeguard against the loss of electrical utility to the process equipment.

EPA believes making more explicit this already-existing accident prevention program requirement, to evaluate hazards of the process [54] will ensure the threats of power loss are properly evaluated and managed to prevent or mitigate releases of RMP-regulated substances at covered facilities. EPA believes many facilities with RMP processes are managing the hazard of power loss. However, some recent RMP accidents are linked to power loss. EPA's review of RMP accident history data from 2004–2020 shows that at least 20 accident history reports have specifically indicated that power failure was a contributing factor to an accident. However, only 63 percent (310) and 44 percent (1,971) of facilities with Program 2 and Program 3 processes, respectively, have implemented backup power at their facilities, despite identifying that the loss of cooling, heating, electricity, and instrument air is a major potential hazard to their process operations.[55] [56]

The frequency and severity of extreme weather events may exacerbate power failure events if the impacts of potential power failures are not identified, and control strategies are not implemented. Climate change poses long-term challenges because it affects the frequency, intensity, and duration of weather events that represent the largest source of disruptions to the U.S. electricity grid. New studies have shown that the threat of power loss is increasing for utility customers. The Department of Energy reported that an increase in extreme weather events has led to an increase in power outages in recent years. Specifically, the Department of Energy's U.S. Energy Information Agency's data showed that electric power for U.S. customers was interrupted for an average of 7.8 hours (470 minutes) in 2017, nearly double the average total duration of interruptions experienced in 2016. Data indicate that more major weather events, such as hurricanes and winter storms, occurred in 2017 than in previous years, and the total duration of power interruptions caused by major events was longer.[57] [58] Recent major power outages also provide examples of this threat. In February 2021 in Texas, Winter Storm Uri left 4.5 million customers without power, some for several days.[59] In January 2022, one of the five worst winter storms in Virginia's history resulted in approximately 400,000 Dominion Energy customers experiencing a power outage when heavy snow and high winds impacted utility services.[60] Events like these also have the potential to impact hazardous chemical process operations.

Therefore, EPA is proposing to further emphasize loss of power in the hazards evaluated in hazard reviews and PHAs for Program 2 and Program 3 RMP-regulated processes. EPA believes further emphasis on these accident prevention program provisions will ensure that the risk of power failure is properly evaluated and managed to prevent or mitigate releases of RMP-regulated substances at covered facilities. EPA is proposing to include emphasizing that hazard evaluations under 40 CFR 68.50(a)(3) and 68.67(c)(3) address standby or emergency power systems.

EPA expects facilities to continue to use available resources to properly evaluate whether power loss is a hazard to their process and, if so, implement appropriate controls to prevent or reduce that hazard. In addition to the hazard evaluation guidance offered by CCPS and other industry-specific resources, below are resources that broadly discuss options for evaluation of power loss and standby power:

- *National Fire Protection Association (NFPA) 70: National Electrical Code.*[61]

[49] *Chemical Accident Prevention & Preparedness* (European Commission, 2021), *https://minerva.jrc.ec.europa.eu/en/shorturl/minerva/mahb_bulletin_15_on_power_failuresfinalpubsypdf.*

[50] EPA, *General Guidance on Risk Management Programs for Chemical Distributors, Ch. 6: Prevention Programs (2012),* pp. 6–10 to 6–11, *https://www.epa.gov/sites/default/files/2013-11/documents/chap-06-final.pdf.*

[51] EPA, *Chemical Accidents from Electric Power Outages* (Office of Solid Waste and Emergency Response, 2001), *https://www.epa.gov/sites/default/files/2013-11/documents/power.pdf.*

[52] OSHA, ''Standard Interpretation 1910.119,'' accessed January 28, 2022, *https://www.osha.gov/laws-regs/standardinterpretations/2008-01-31.*

[53] Term similar to ''RMP-regulated substance.''

[54] Existing requirements of the hazards to be evaluated in hazard evaluations are found at 40 CFR 68.50(a) for Program 2 processes and at 40 CFR 68.67(a)–(c) for Program 3 processes.

[55] EPA recognizes that not all RMP-regulated processes will need emergency backup power (for example, certain RMP-regulated storage processes).

[56] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

[57] U.S. Energy Information Administration, ''Today in Energy,'' last modified November 30, 2018, *https://www.eia.gov/todayinenergy/detail.php?id=37652#.*

[58] Department of Energy, ''Electric Disturbance Events (OE–417) Annual Summaries,'' accessed January 28, 2022, *https://www.oe.netl.doe.gov/OE417_annual_summary.aspx.*

[59] Chris Stipes, ''New Report Details Impact of Winter Storm Uri on Texans,'' University of Houston, last modified March 29, 2021, *https://uh.edu/news-events/stories/2021/march-2021/03292021-hobby-winter-storm.php.*

[60] Dominion Energy, ''Dominion Energy Making Significant Progress Restoring Power, Preparing for Second Winter Storm,'' last modified January 5, 2022, *https://news.dominionenergy.com/2022-01-05-Dominion-Energy-Making-Significant-Progress-Restoring-Power,-Preparing-for-Second-Winter-Storm.*

[61] NFPA, *NFPA 70, National Electric Code* (2020), *https://www.nfpa.org/codes-and-standards/all-*

• *NFPA 110:* Standard for Emergency and Standby Power Systems.[62]
• *NFPA 1600:* Standard on Continuity, Emergency, and Crisis Management.[63]
• *3005.4–2020:* Institute of Electrical and Electronics Engineers (IEEE) Recommended Practice for Improving the Reliability of Emergency and Stand By Power Systems.[64]
• *3006.7–2013:* IEEE Recommended Practice for Determining the Reliability of 7x24 Continuous Power Systems in Industrial and Commercial Facilities.[65]
• National Renewable Energy Laboratory (NREL), ''Backup power cost of ownership analysis and incumbent technology,'' *NREL,* NREL/TP–5400–60732, Golden, CO (2014).[66]
• NREL, ''A comparison of fuel choice for backup generators,'' *NREL,* NREL/TP–6A50–72509, Golden, CO (2019).[67]

The Agency is concerned that the threat of extreme weather events has and will be used by some owners or operators to justify disabling equipment designed to monitor and detect chemical releases of RMP-regulated substances at their facility. EPA is concerned that air monitoring and control equipment is often removed from service before natural disasters to potentially prevent damage to equipment or, conceivably in some cases, evade monitoring requirements and therefore may not become operational again until much later, after the event or threat has passed. To prevent accidents, RMP owners or operators are required to develop a program that includes monitoring for accidental releases. EPA does not believe natural disasters should be treated as an exception to this requirement. A large-scale natural disaster may threaten multiple RMP facilities in a community simultaneously, leaving communities to endure the direct effects of a natural disaster without receiving warning of associated chemical releases. EPA wants to ensure RMP-regulated substances at covered processes are continually being monitored so that potential exposure to chemical substances can be measured during and following a natural disaster. Some industry standards already require continuous monitoring of process chemicals. For example, the International Institute of Ammonia Refrigeration's (IIAR's) ''Minimum Safety Requirements for Existing Closed Circuit Ammonia Refrigeration Systems'' requires facilities with ammonia refrigeration systems to provide a means for monitoring the concentration of an ammonia release in the event of a power failure.[68] While EPA is not requiring implementation of standby or emergency power for the entirety of an RMP process, EPA is proposing to require air pollution control or monitoring equipment associated with prevention and detection of accidental releases from RMP-regulated processes to have standby or backup power to ensure compliance with the intent of the rule. EPA seeks comment and data on this proposed provision, particularly on any potential safety issues associated with it.

d. Stationary Source Siting

The location of stationary sources, and the location and configuration of regulated processes and equipment within a source, can significantly affect the severity of an accidental release. The location of the stationary source in relation to public and environmental receptors may exacerbate the impacts of an accidental release, such as blast overpressures or concentrations of toxic gases, or conversely, it may allow such effects to dissipate prior to reaching receptors. Siting of processes and equipment within a stationary source can impact the surrounding community not only through the proximity of the accidental release to offsite receptors adjacent to the facility boundary (*e.g.,* people, infrastructure, environmental resources), but also through increasing the likelihood of a secondary ''knock-on'' release by compromising nearby processes. EPA is proposing to emphasize the requirement to consider stationary source siting in regulatory text to make sure that the intent of the requirement is properly incorporated in siting hazard evaluations.

The lack of sufficient distance between the source boundary and neighboring residential areas was a significant factor in the severity of several chemical accidents in the United States and internationally. The following are examples which illustrate the potential of such effects:

• *1984, Bhopal, India:* Union Carbide release of approximately 40 tons of methyl isocyanate into the air killed over 3,700 people. Most of the deaths and injuries occurred in a residential area near the plant.[69]
• *1984, Juan Ixhuatepec, Mexico:* Pemex liquefied petroleum gas (LPG) tank farm LPG pipeline rupture resulted in a large ground fire that spread to nearby LPG storage vessels, initiating a series of massive explosions. The cascading explosions and fires ultimately destroyed the entire facility and many nearby residences, resulting in over 500 fatalities and thousands of severe injuries.[70]
• *1994, Port Neal, Iowa, United States:* Terra Industries explosion involving ammonium nitrate (AN) killed four workers and damaged onsite ammonia tanks, creating an ammonia cloud that resulted in the evacuation of 2,500 people in nearby neighborhoods.[71]
• *2009, Belvidere, Illinois, United States:* NDK Crystal facility catastrophic rupture of a pressure vessel resulted in one public fatality and one public injury. A building fragment propelled by the force of the blast traveled nearly 650 feet and killed a member of the public at a highway rest stop parking lot. An 8,600-pound vessel fragment traveled 435 feet and impacted a neighboring business, injuring one offsite worker and causing significant property damage.[72]
• *2013, West, Texas, United States:* West Fertilizer Company explosion involving AN damaged an apartment complex and a nursing home located approximately 450 feet and 600 feet, respectively, from the source of the explosion, resulting in 3 public fatalities

codes-and-standards/list-of-codes-and-standards/detail?code=70.

[62] NFPA, *NFPA 110, Standard for Emergency and Standby Power Systems* (2022), *https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=110.*

[63] NFPA, *NFPA 1600, Standard on Continuity, Emergency, and Crisis Management* (2019), *https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1600.*

[64] IEEE, *IEEE Recommended Practice for Improving the Reliability of Emergency and Stand By Power Systems* (2020), *https://standards.ieee.org/ieee/3005.4/6218/.*

[65] IEEE, *IEEE Recommended Practice for Determining the Reliability of 7x24 Continuous Power Systems in Industrial and Commercial Facilities* (2013), *https://ieeexplore.ieee.org/document/6493367.*

[66] Kurtz, J., et al., *Backup Power Cost of Ownership Analysis and Incumbent Technology Comparison* (2014), *https://www.nrel.gov/docs/fy14osti/60732.pdf.*

[67] Ericson, S., and Olis, D., *A Comparison of Fuel Choice for Backup Generators* (2019), *https://www.nrel.gov/docs/fy19osti/72509.pdf.*

[68] IIAR, IIAR–9–2020 Minimum Safety Requirements for Existing Closed Circuit Ammonia Refrigeration Systems 7.4.7.2.

[69] Lees, Frank P. *Loss Prevention in the Process Industries,* Volume 3, 2nd ed. Appendix 5, Bhopal (Oxford: Butterworth-Heinemann, 1996).

[70] Lees, Frank P. *Loss Prevention in the Process Industries,* Volume 3, 2nd ed. Appendix 4, Mexico City (Oxford: Butterworth-Heinemann, 1996).

[71] EPA. Chemical Accident Investigation Report: Terra Industries, Inc., Nitrogen Fertilizer Facility (2014), *https://archive.epa.gov/emergencies/docs/chem/web/pdf/cterra.pdf.*

[72] CSB, ''NDK Crystal Inc. Explosion with Offsite Fatality,'' last modified November 14, 2013, *https://www.csb.gov/ndk-crystal-inc-explosion-with-offsite-fatality-/.*

(out of a total of 15 people killed in the explosion). The explosion also caused over 260 injuries, as well as damage to over 350 homes and 3 schools located near the plant.[73]

• 2018, Superior, Wisconsin, United States: Superior Refining Company, LLC, explosion and subsequent fire in the refinery's fluid catalytic cracking unit resulted in 36 people (workers and community members) seeking medical attention. In addition, a portion of Superior, Wisconsin, had to be evacuated.[74]

• 2020, Visakhapatnam, Andhra Pradesh, India: LG Polymers styrene release incident produced a toxic cloud that caused at least 11 fatalities and hundreds of injuries in the nearby community.[75]

This list of accidents provides examples of the numerous accidents with offsite consequences resulting from the close proximity of industrial facilities to public receptors, demonstrating that selection of locations of processes and process equipment within a stationary source can impact the surrounding community. Communities are affected not only by the proximity of accidental releases to offsite receptors (*e.g.,* people, infrastructure, environmental resources) near the facility boundary, but also by the increased likelihood of subsequent releases from other nearby processes compromised by the initial release. As accidents continue to happen, EPA is proposing to emphasize the intent of the required siting evaluation to ensure protection of human health and the environment.

The OSHA PSM standard and RMP rule both require that facility siting be addressed as one element of a PHA (29 CFR 1910.119(e)(3)(v), and 40 CFR 68.67(c)(5)). In response to comments on the proposed PSM rule, OSHA indicated that facility siting should always be considered during PHAs and therefore decided to emphasize this element by specifically listing siting evaluation in regulatory text.[76] With the adoption of PHA regulatory text, EPA also recognized the offsite benefits of siting evaluations. EPA's approach to the siting requirement is consistent with its general approach to PSM in the 1996 RMP rule: sound, comprehensive PSM systems can protect workers, the public, and the environment.[77] The Agency chose to include additional guidance in a frequently asked questions section of its website to not only indicate the Agency's expectations, but also to provide guidance on the RMP rule's coverage of facility siting evaluation to include consideration of offsite receptors. The guidance states: ''The requirement to consider stationary source siting during the process hazard analysis means that you should consider the location of the covered vessels and evaluate whether their location creates risks for offsite public or environmental receptors, as well as onsite receptors. This analysis should consider the proximity of the vessels that could lead to a release of a regulated substance. The proximity of the vessels to onsite equipment or activities nearby will have been considered for OSHA; the proximity of the vessels in relation to offsite receptors will be considered if not already considered for OSHA. The analysis may be done qualitatively. The analysis addresses whether the location of the vessels creates risks that could be reduced by changing the location or taking other actions, such as installing mitigation systems.'' [78]

As with other aspects of the RMP rule, EPA expects regulated facilities to rely on industry guidance to help adequately address stationary source siting in PHAs. The following examples of relevant industry guidance on siting considerations are available to facility owners and operators:

• American Petroleum Institute (API) Recommended Practice 752, Management of Hazards Associated with Location of Process Plant Buildings.[79]

• API Recommended Practice 753, Management of Hazards Associated with Location of Process Plant Portable Buildings.[80]

• CCPS Guidelines for Evaluating Process Plant Buildings for External Explosions, Fires, and Toxic Releases.[81]

• CCPS Guidelines for Siting and Layout of Facilities.[82]

• NFPA Separation Distances in NFPA Codes and Standards.[83]

The CCPS ''Guidelines for Siting and Layout of Facilities'' addresses external factors influencing site selection, as well as factors internal to the source that could influence site layout and equipment spacing. The most recent edition of this CCPS publication was updated to address many developments in the last decade that have improved how companies survey and select new sites, evaluate acquisitions, and expand their existing facilities.[84] The title was also updated to emphasize not only siting of buildings and unit operations within a facility, but also siting of facilities within a community. The guidance addresses identifying the process hazards and risks, selecting a facility location, selecting process unit layout within a facility, selecting equipment within a process unit, and managing changes.

As an industry-specific example for siting, the Compressed Gas Association's (CGA's) ''G–2.1—Requirements for the Storage and Handling of Anhydrous Ammonia,'' [85] among other things, requires facilities with anhydrous ammonia systems to apply specific location requirements for processes, such as tank loading and unloading operations, and equipment, such as ammonia storage containers, piping, and nurse wagons. It also includes specific minimum separation distances from storage containers to railroad mainlines, highways, lines of

[73] CSB, ''West Fertilizer Explosion and Fire,'' last modified January 28, 2016, *https://www.csb.gov/west-fertilizer-explosion-and-fire-/.*

[74] CSB, ''Husky Energy Refinery Explosion and Fire,'' accessed January 28, 2022, *https://www.csb.gov/husky-energy-refinery-explosion-and-fire/.*

[75] Doyle, Amanda, ''Hundreds Hospitalized After Styrene Gas Leak in India,'' *The Chemical Engineer,* last modified May 7, 2020, *https://www.thechemicalengineer.com/news/hundreds-hospitalised-after-styrene-gas-leak-in-india.*

[76] OSHA, *Final Rule on Process Safety Management of Highly Hazardous Chemicals; Explosives and Blasting Agents,* 29 CFR part 1910 (1992), *https://www.osha.gov/laws-regs/federalregister/1992-02-24.*

[77] 61 FR 31687; June 20, 1996.

[78] EPA, ''Is EPA's PHA Stationary Source Siting Requirement Analogous to OSHA's PSM?'' accessed January 31, 2022, *https://www.epa.gov/rmp/epas-pha-stationary-source-siting-requirement-analogous-oshas-psm.*

[79] API, *Recommended Practice 752, Management of Hazards Associated with Location of Process Plant Buildings, 3rd Edition* (December 2020), *https://www.api.org/oil-and-natural-gas/health-and-safety/refinery-and-plant-safety/process-safety/process-safety-standards/rp-752.*

[80] API, *Recommended Practice 753, Management of Hazards Associated with Location of Process Plant Portable Buildings, 1st Edition* (June 2007), *https://www.api.org/oil-and-natural-gas/health-and-safety/refinery-and-plant-safety/process-safety/process-safety-standards/rp-753.*

[81] CCPS, *Guidelines for Evaluating Process Plant Buildings for External Explosions, Fires, and Toxic Releases, 2nd Edition* (2012), *https://www.aiche.org/resources/publications/books/guidelines-evaluating-process-plant-buildings-external-explosions-fires-and-toxic-releases-2nd.*

[82] CCPS, *Guidelines for Siting and Layout of Facilities, 2nd Edition* (Hoboken, NJ: Wiley, 2018), *https://www.aiche.org/ccps/resources/publications/books/guidelines-siting-and-layout-facilities-2nd-edition.*

[83] Argo, Ted, and Evan Sandstrom, *Separation Distances in NFPA Codes and Standards* (The Fire Protection Research Foundation, 2014), *https://www.nfpa.org/-/media/Files/News-and-Research/Fire-statistics-and-reports/Hazardous-materials/RFSeparationDistancesNFPACodesAndStandards.ashx.*

[84] CCPS, *Guidelines for Siting and Layout of Facilities, 2nd Edition* (Hoboken, NJ: Wiley, 2018), *https://www.aiche.org/ccps/resources/publications/books/guidelines-siting-and-layout-facilities-2nd-edition.*).

[85] ANSI/CGA, *Requirements for the Storage and Handling of Anhydrous Ammonia (an American National Standard)* (2014), *https://webstore.ansi.org/standards/cga/ansicga2014.*

adjoining properties, and places of public assembly and residential and institutional occupancy. Asmark Institute,[86] a well-known agricultural industry organization, developed an RMP Program 2 Hazard Review checklist as a resource for its industry to apply CGA G–2.1 and other applicable industry standards.[87]

Despite enforcement and the consequences of catastrophic accidents, issues of siting continue to threaten process safety. For example, in 2018, EPA took an enforcement action against an agricultural anhydrous ammonia sales operation in Missouri that failed to identify the hazards associated with the proximity of the facility to a home and a nearby firehouse.[88] In 2021, EPA took an enforcement action against a chemical manufacturing facility in Maine that did not address the facility's proximity to a nearby bay; lack of proximity to external trained emergency responders; and process layout—specifically, the proximity of shutdown valves to operations.[89]

EPA reviewed data from OSHA PSM PHA enforcement actions. In 2018, 16 cases were filed where facility siting was cited as a serious violation [90] that could cause an accident or illness that would most likely result in death or serious physical harm.[91] One of those cases was also reported as an RMP accident that occurred on September 1, 2016, at the Brookshire Grocery Company's distribution center in Tyler, Texas. A failure in the piping on the roof of the cold storage building caused an ammonia leak. The leak caused 16 injuries and resulted in the evacuation of the building, the closure of a nearby intersection, and the need for nearby residents to shelter in place.[92] Given the potential risk demonstrated by recurring accidents, EPA seeks to ensure that emphasis is placed on the importance of all aspects of a proper facility siting evaluation.

In a 2014 RMP request for information (RFI),[93] EPA requested comments on whether to consider stationary source location requirements for future rulemaking. EPA specifically asked whether it should amend the RMP rule to include more specific siting requirements as part of the PHA. Though EPA received comments on the issue, EPA chose not to move forward with additional action on siting in the amendment's final rule but indicated that the Agency would consider comments for a future rulemaking.

In response to the RFI, commenters opposed adding additional provisions to address stationary source siting, citing as rationale that:

- Existing facilities have limited flexibility to alter locations onsite.[94]
- Specifying or requiring buffer or setback zones is a complicated issue and must be looked at differently for new and existing facilities.[95]
- EPA would be intruding on local zoning codes when establishing siting criteria.[96]
- Existing industry guidance is sufficient.[97]
- Requiring additional siting requirements for both new and existing facilities could result in significant cost to the regulated entity.[98]

One opposing commenter specifically indicated that, to date, EPA has allowed for siting considerations to be included under performance-based elements of the RMP program. The commenter stated that any modification of the existing requirements would be inconsistent with a risk-based management system approach.[99] Another commenter, although generally in opposition to new siting requirements, stated that for existing facilities, the owner/operator should demonstrate that other technologies, such as early detection, early communication, prevention measures, and mitigation measures, are applied to manage risk within acceptable levels. This commenter also stated that in some cases, it may be necessary to make process changes, and in unique cases where the risk cannot be abated, owners/operators should consider relocation of part or all facility operations.[100]

There were also commenters who argued stationary source siting should be expanded in the RMP rule. For example, one commenter stated the PHA must address issues of co-location both in terms of adjacent facilities and in terms of vulnerable populations and infrastructure. This commenter stated that at a minimum, facilities must address hazards to and from adjacent facilities—including impacts that a release from their facility would have on other facilities and the impact that a release from other facilities would have on their facility—and further expansion should address buffer zones for nearby residents, hospitals, and infrastructure. The commenter argued that new facilities or expansion of facilities must consider the cumulative impacts from adjacent facilities and look at the threat that a release from the new facility or expansion would pose to other facilities, infrastructure, populations, and environmental resources.[101] Additionally, CSB encouraged EPA to incorporate more explicit requirements for identifying, evaluating, and addressing facility siting during a PHA to assess both offsite consequences and onsite receptors within that stationary source that may be impacted by chemical fire, explosion, or release.[102]

EPA believes that many matters outlined in comments about the current stationary source siting provision, while not explicitly addressed within the current regulatory text, are implicit and mandatory. Therefore, at this time, EPA is only choosing to make more explicit what is required to be addressed in a stationary source siting evaluation. Rather than propose additional requirements, EPA is expounding on the current regulatory text to ensure that siting evaluations properly account for hazards resulting from the location of processes, equipment, building, and proximate facilities, and their effects on the surrounding community. In addition

[86] Asmark Institute, *https://www.asmark.org/.*

[87] Asmark Institute, *MyRMP Hazard Review Worksheet for Program 2 Facilities with Anhydrous Ammonia* (2015), *https://www.asmark.org/myRMP/Forms/P2AnhydrousWorksheet.pdf.*

[88] Available at *https://yosemite.epa.gov/oa/rhc/epaadmin.nsf/Filings/E54E9167BD7A4EF6852582C0001BCFD5/$File/CAA-07-2018-0214%20United%20Cooperatives%20CAFO.pdf.*

[89] Available at *https://yosemite.epa.gov/OA/RHC/EPAAdmin.nsf/Filings/D26E190D9B6DA9E18525875F006CA916/$File/CAA-01-2021-0070%20CAF)%20ViewPDF%20(8).pdf.*

[90] Identified as a ''serious'' violation under OSHA in: OSHA, ''Federal Employer Rights and Responsibilities Following an OSHA Inspection-1996,'' accessed January 31, 2022, *https://www.osha.gov/publications/fedrites#:~:text=SERIOUS%3A%20A%20serious%20violation%20exists,have%20known%20of%20the%20violation.*

[91] U.S. Department of Labor, ''Data Catalog; OSHA Enforcement Data; osha_violation'' accessed March 17, 2022, *https://enforcedata.dol.gov/views/data_summary.php.*

[92] Louanna Campbell, ''Tyler Fire Marshal's Office Releases Cause of Ammonia Leak at Brookshire's Warehouse,'' last modified September 5, 2017, *https://tylerpaper.com/news/local/tyler-fire-marshals-office-releases-cause-of-ammonia-leak-at-brookshires-warehouse/article_3a7581b2-63b9-57b9-96c2-0b163f546668.html.*

[93] EPA, *Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, Section 112(r)(7),* Proposed rule, 79 FR 44603 (July 13, 2014), pp. 44603–44633, *https://www.federalregister.gov/documents/2014/07/31/2014-18037/accidental-release-prevention-requirements-risk-management-programs-under-the-clean-air-act-section.*

[94] EPA–HQ–OEM–2014–0328–0121; 0543, 0548, 0605, 0616, 0624.

[95] EPA–HQ–OEM–2014–0328–0543; 0546, 0584, 0616, 0632.

[96] EPA–HQ–OEM–2014–0328–0543; 0584, 0614, 0616, 0624, 0626, 0646, 0667.

[97] EPA–HQ–OEM–2014–0328–0121; 0543, 0546, 0605, 0620, 0624, 0640, 0665.

[98] EPA–HQ–OEM–2014–0328–0624; 0626.

[99] EPA–HQ–OEM–2014–0328–0691.

[100] EPA–HQ–OEM–2014–0328–0543.

[101] EPA–HQ–OEM–2014–0328–0637.

[102] EPA–HQ–OEM–2014–0328–0689.

to providing some detail on what is intended by the Program 3 regulatory text on stationary source siting, EPA is also proposing to revise language to Program 2 hazard evaluations to ensure that all RMP facilities with the potential to cause offsite consequences to public receptors account for these hazards. Therefore, EPA is proposing to amend regulatory text for Program 2 and Program 3 under 40 CFR 68.50(a)(6) and 68.67(c)(5), respectively, to define stationary source siting evaluation as inclusive of the placement of processes, equipment, buildings, and hazards posed by proximate facilities, and accidental release consequences posed by proximity to the public and public receptors. The proposed amendments would make more explicit the requirement that hazard evaluations for processes under both Program 2 (hazard review) and Program 3 (PHA) need to address the matters in the siting evaluation.

Because there is a breadth of guidance on siting, EPA believes there is adequate information available for facilities to comply with the proposed text. EPA expects facilities to continue to use available resources, including those previously mentioned, and any additional industry-specific guidance to properly evaluate siting hazards.

e. Hazard Evaluation Recommendation Information Availability

Ensuring that communities, local planners, local first responders, and the public have appropriate chemical facility hazard-related information is critical to the health and safety of responders and the local community. In this action, EPA is proposing ways to enhance information sharing and collaboration between chemical facility owners/operators, Tribal and local emergency planning committees (TEPCs/LEPCs), first responders, and the public in a manner that EPA believes balances security and proprietary considerations. In addition to the information accessibility provisions in section IV.C of this preamble, EPA is also proposing that recommendations resulting from hazard evaluations discussed in this section be included in a facility's risk management plan submitted under 40 CFR part 68, subpart G. Specifically, facilities would be required to implement recommendations or list in their risk management plans the recommendations from their natural hazard, loss of power, and siting evaluations that were not adopted and the justification for those decisions. EPA believes this will enable the public to ensure facilities have conducted appropriate evaluations to address potential hazards that can affect communities near the fenceline of facilities. In response to comments in the RFI on increased public disclosure of information, one commenter stated that it is important to help the public understand how the facilities address the hazard present in their community and keep the risk at or below the ''acceptable level.'' EPA believes that when local citizens have adequate information and knowledge about facility hazards, facility owners and operators may be motivated to further improve their safety in response to community pressure and oversight.[103]

EPA is proposing to require facilities to list in section 7 (Program 3) and section 8 (Program 2) of their risk management plans, for each process, recommendations resulting from hazard evaluations of natural hazards, loss of power, and facility siting that the owner/operator chooses to decline. EPA realizes that the number of hazard evaluation recommendations may vary widely, depending on the complexity of the process or facility. Therefore, EPA seeks comments on the format of listing the recommendations, whether EPA should require recommendations to be included in narrative form, or whether the Agency should provide specific categories of recommendations for facilities to choose from when reporting. Another option would be to allow the owner or operator to post this information online and provide a link to the information within their risk management plan.

Regarding the requirement to provide justification for not implementing recommendations, EPA is proposing to allow facilities to choose from pre-selected categories. Under OSHA guidance, an employer may decline to adopt a PHA recommendation if, based upon adequate evidence, the employer can document that one or more of the following conditions is true:[104]

- The analysis upon which the recommendation is based contains material factual errors.
- The recommendation is not necessary to protect the health and safety of the employer's own employees, or the employees of contractors.
- An alternative measure would provide a sufficient level of protection.
- The recommendation is infeasible.

EPA is proposing to adopt these same categories in the risk management plan as justification for declined recommendations, with a modification to account for public receptors (*i.e.,* the recommendation is not necessary to protect public receptors). EPA seeks public comment on this approach and on alternative categories or methods to provide justification for declining relevant recommendations. EPA wants to ensure a balanced approach to providing beneficial data to the public as well as a straightforward method of reporting for facility owners/operators.

Proposed revisions to regulatory text include, requiring risk management plans under 40 CFR 68.170(e)(7) and 68.175(e)(8), reporting declined natural hazard, power loss, and siting hazard evaluation recommendations and their associated justifications in the risk management plan submitted to EPA.

f. Summary of Proposed Regulatory Text

EPA is proposing to emphasize that Program 2 hazard reviews and Program 3 PHAs identify and address natural hazards, loss of power, and facility siting (as described in this document) in order to effectively prevent or minimize accidental releases of regulated substances to protect human health and the environment. EPA is also proposing to require the owner or operator to report any recommendations arising from these evaluations that are declined, along with the owner or operator's justification for declining them, within the risk management plan submitted to EPA. A summary of the proposed regulatory text changes are described below:

- Hazard evaluations under 40 CFR 68.50(a)(5) and 68.67(c)(8) to explicitly address external events such as natural hazards, including those caused by climate change or other triggering events that could lead to an accidental release.
- Hazard evaluations under 40 CFR 68.50(a)(3) and 68.67(c)(3) to explicitly address standby or emergency power systems.
- Hazard evaluations under 40 CFR 68.50(a)(6) and 68.67(c)(5) to explicitly define stationary source siting as inclusive of the placement of processes, equipment, buildings within the facility, and hazards posed by proximate facilities, and accidental release consequences posed by proximity to the public and public receptors.
- Risk management plans under 40 CFR 68.170(e)(7) and 68.175(e)(8) to include declined natural hazard, power loss, and siting hazard evaluation recommendations and their associated justifications.

[103] EPA–HQ–OEM–2014–0328–0543–27.

[104] OSHA, Process Safety Management of Highly Hazardous Chemicals—Compliance Guidelines and Enforcement Procedures, 29 CFR 1910.119 (September 13, 1994), *https://www.osha.gov/sites/default/files/enforcement/directives/CPL02-02-045_CH-1_20150901.pdf.*

EPA realizes, and commenters have indicated in the past,[105] that only a small number of facilities are responsible for a significant percentage of RMP accidents. EPA expects the proposed language will ensure that those owner/operators who are not properly evaluating these hazards will be explicitly required to do so, which will better ensure owner/operators do their due diligence in preventing or minimizing accidental releases of regulated substances to protect human health and the environment. EPA seeks comment on the proposed language or alternative language that will not unnecessarily expand the scope of hazard evaluations.

2. Prevention Program Provisions

The following section describes proposed modifications to the prevention program provisions of the RMP rule. Several of these changes address issues that have been the subject of both the 2017 amendments rule and the 2019 reconsideration rule, including safer technologies and alternatives analysis, root cause analysis incident investigations, and third-party audits. As detailed below, the Agency's preferred options for these topics adjust the scope of the provisions adopted and rescinded by the prior rulemakings. EPA also proposes new requirements for improved employee participation in prevention programs. The options proposed below should enhance community safety, especially in communities facing elevated probability of accidents, without unduly burdening overly broad classes of stationary sources.

a. Safer Technologies and Alternatives Analysis (STAA)

EPA is proposing a requirement in 40 CFR 68.67(c)(9) for some Program 3 regulated processes to consider and document the feasibility of applying safer technologies and alternatives as part of their PHA. This requirement applies to petroleum and coal products manufacturing processes (classified in NAICS code 324) and chemical manufacturing processes (NAICS code 325) that are located within 1 mile of another RMP-regulated facility with these same processes (classified in NAICS 324 and 325). EPA is also proposing that all facilities with petroleum and coal products processes (in NAICS 324) using hydrofluoric acid (HF) in an alkylation unit (approximately 45 facilities) consider safer alternatives to HF alkylation, regardless of proximity to another NAICS 324- or 325-regulated facility.

Current PHA requirements (40 CFR 68.67) under the RMP rule include some aspects of the hierarchy of controls analysis.[106] As discussed in the proposed regulation that became the 2017 amendments rule, Program 3 processes are required to address process hazards using engineering and administrative controls since 1996. However, as EPA pointed out, there is no explicit requirement for owners and operators to address inherent safety—the first tier of the hierarchy of controls. EPA is proposing to expand upon these requirements by requiring the owners or operators to consider safer technology and alternative risk management measures that could eliminate or reduce risk from process hazards. In addition to engineering and administrative controls, owners and operators of facilities with Program 3 processes covered under this provision would have to consider the application of the following safer technology measures, in the following order: inherently safer technology (IST) or inherently safer design (ISD), passive safeguards, active safeguards, and procedural safeguards.

In this proposed regulation, EPA is not requiring facilities to implement identified inherent safety measures; rather, EPA is requiring owners and operators to include an evaluation, including the results of the STAA analysis, as part of the PHA requirements in 40 CFR 68.67(e), and, to document the feasibility of inherent safety measures based on more than cost alone. Submission of STAA analysis summaries to EPA is discussed in further detail under ''STAA technology transfer.'' Finally, EPA is proposing that a facility's STAA team include, and document the inclusion of, one member who works in the process and has expertise in the process being evaluated. EPA is also proposing to include a more comprehensive practicability assessment, in addition to the STAA evaluation requirements as part of the PHA. As part of this analysis, owners and operators would be required to identify, evaluate, and document the practicability of implementing inherent safety measures, including documenting the practicability of publicly available safer alternatives.

i. Background on IST/ISD

EPA discussed safer technology and alternatives at length in its proposed RMP rule amendments published in 2016. ''Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act'' (81 FR 13638, March 14, 2016). ''Safer technology and alternatives'' refers to risk reduction or risk management strategies developed through analysis using a hierarchy of process risk management strategies (or hierarchy of controls). In this context, the hierarchy of controls consists of controls that are inherent, passive, active, and procedural. STAA involves considering IST or ISD, which refer to strategies that permanently reduce or eliminate hazards associated with the materials and operations of a process. As discussed in EPA/OSHA's 2015 chemical safety fact sheet,[107] the four major inherently safer strategies are: (1) substitution: replacing hazardous materials with less hazardous substances; (2) minimization: using smaller quantities of hazardous substances; (3) moderation: creating less hazardous conditions or using less hazardous forms or facility designs to minimize the impact of potential releases of hazardous materials or energy; and (4) simplification: designing facilities to eliminate unnecessary complexity and make operating errors less likely. Inclusion of IST/ISD in the RMP regulations is consistent with several CSB investigations that demonstrated that incidents could have been prevented or consequences mitigated by using IST/ISD.[108] [109] [110] [111]

In the supplemental proposed RMP rule for the initial requirements under CAA 112(r)(7), EPA solicited comments on requiring IST. ''Accidental Release Prevention Requirements: Risk Management Programs Under Clean Air Act Section 112(r)(7)'' (60 FR 13526, March 13, 1995) (1995 supplemental proposal). Prior to the 2017 final RMP amendments, however, EPA had never

[105] EPA–HQ–OEM–2015–0725–1628.

[106] Safety experts have developed a way to group types of controls in an order or ''hierarchy of controls'' that prefers those that are least likely to fail. As discussed in more detail in in section IV.A.2.a.i, below, controls that eliminate the hazard are preferred over those that do not require power or activation, which are preferred over those that do require power or activation, which are preferred over those that depend simply on rules of operation.

[107] EPA and OSHA, *Chemical Safety Alert: Safer Technology and Alternatives* (June 2015), *https://www.epa.gov/sites/default/files/2015-06/documents/alert_safer_tech_alts.pdf.*

[108] CSB, ''Chevron Refinery Fire,'' last modified January 28, 2015, *https://www.csb.gov/chevron-refinery-fire/.*

[109] CSB, ''Tesoro Refinery Fatal Explosion and Fire,'' last modified May 1, 2014, *https://www.csb.gov/tesoro-refinery-fatal-explosion-and-fire/.*

[110] CSB, ''Kleen Energy Natural Gas Explosion,'' last modified June 28, 2010, *https://www.csb.gov/kleen-energy-natural-gas-explosion/.*

[111] CSB, ''Bayer CropScience Pesticide Waste Tank Explosion,'' last modified January 1, 2011, *https://www.csb.gov/bayer-cropscience-pesticide-waste-tank-explosion/.*

required RMP facilities to conduct an STAA or implement identified IST/ISD. The 2017 amendments rule added a requirement to the PHA for regulated sources in specified industrial sectors to identify and address hazards at least every 5 years. Specifically, owners or operators of facilities with Program 3 regulated processes in NAICS codes 322 (paper manufacturing), 324 (petroleum and coal products manufacturing), and 325 (chemical manufacturing) were required to conduct an STAA as part of their PHA and evaluate and document the practicability of any IST identified. The provision was intended to reduce the risk of serious accidental releases by requiring facilities in these sectors to conduct a careful examination of potentially safer technology and designs that they could implement in lieu of, or in addition to, their current technologies. EPA adopted STAA based on recommendations from CSB and other engineering experts, as well as lessons learned from case studies and investigations of accidents. EPA identified the sectors covered by this requirement by using sector-wide accident rates. EPA believes that some of the practicability of implementation will be identified in the course of the PHA and that for many processes, owner/operators will already know if implementing a particular technology is practicable. EPA solicits comments on the industry understanding of the practicability assessment, and how this might differ from the findings identified in the PHA, as well as the additional benefit of such a provision.

In the 2019 rule completing the process of reconsidering the 2017 rule, EPA removed the new regulatory STAA requirement on all facilities in NAICS 322, 324, and 325 that are in the RMP program. ''Accidental Release Prevention Requirements: Risk Management Programs Under the CAA'' (84 FR 69834, December 19, 2019) (2019 reconsideration rule), EPA analyzed accident history data in the RMP database, both nationally and in States and localities with programs that contained some or all the elements of the prevention program provisions. EPA discusses accident trends overall in Section III.C of this preamble. The analysis suggested that accident rates in jurisdictions that adopted STAA-like programs were not lower than national accident rates. Based on this assessment, EPA stated that STAA regulations would likely not be effective at reducing accidents if applied on a national scale, relative to the pre-2017 program. Instead, EPA decided to take a source-specific, compliance-driven approach, using oversight and enforcement tools to identify sources that would appear to benefit from STAA and to then seek STAA adoption at such sources.

ii. Hydrogen Fluoride

Hydrogen fluoride (HF) is an extremely toxic chemical that is lethal at 30 ppm. It is covered by RMP when more than 1,000 pounds are used in a process. HF is an extremely toxic chemical used for alkylation at 27 percent of facilities in NAICS 324 (45 of 163). HF has been the subject of recent catastrophic near-miss investigations by CSB. One of these investigations involved an explosion at the Husky Refinery in Superior, Wisconsin, wherein debris impacted processes at a further distance from the explosion than the refinery's HF storage tank.[112] CSB also investigated a near-miss in Torrance, California, wherein the explosion of ExxonMobil's electrostatic precipitator resulted in debris landing near the refinery's modified HF tanks.[113]

There are recognized potentially safer alternatives available for HF alkylation that have been successfully implemented by refineries, such as sulfuric acid alkylation, ionic liquid alkylation, or solid acid catalyst alkylation.[114] [115] EPA contends that the practicability of these potentially safer alternatives is situation-specific and that owners and operators are usually in the best position to make these determinations. Phasing out HF or switching to an inherently safer alternative may require construction of a new alkylation unit. Depending on the production levels of the refinery, implementation of alternatives to HF alkylation could cost between $35 million and $900 million (see RIA, Appendix A).

iii. Recent Public Input on STAA

During EPA's 2021 listening sessions, approximately 245 commenters provided feedback on STAA. Many commenters, including individual commenters, professional associations, advocacy groups, labor organizations, an association of government agencies, and a Federal agency, supported EPA restoring the 2017 amendments rule requirement for facilities to assess safer technologies and substitute safer alternatives in their processes where feasible.[116] A group of retired Federal agency officials said that facilities should share this analysis with communities and emergency responders, and EPA should establish a ''publicly accessible clearinghouse of safer alternatives.'' [117] Individual commenters stated that STAAs should include an assessment of environmental justice, including the burden on surrounding communities,[118] while another commenter stressed that STAAs would be very beneficial for communities with environmental justice concerns.[119] An environmental advocacy group suggested that RMP facilities should be required to develop and submit a hazard reduction plan made by facility experts and workers that would start at the top of the hierarchy of controls and include considerations of an EPA-generated list of inherently safer chemicals.[120]

Another advocacy group stated that it is interested in having facilities incorporate solutions data into STAAs and—along with a State regulatory agency, labor organizations, advocacy groups, and an individual commenter—supported requiring STAAs from every RMP facility in sectors such as water treatment, not just in oil manufacturing, chemical manufacturing, and paper manufacturing.[121] A State regulatory agency mentioned that many safer technology alternative opportunities exist in other sectors and expressed that there should not be any limit on how many NAICS sectors are included.[122]

An advocacy group suggested that EPA implement an even more robust alternatives analysis and implementation process than that of the STAA proposed during the 2017 amendments rule. The commenter said that, rather than basing the universe of facilities subject to the STAA requirement on the results of data analysis performed in 2017, EPA should require this type of assessment at all facilities. The commenter proposed that,

[112] CSB, ''Husky Energy Refinery Explosion and Fire,'' accessed February 10, 2022, *https://www.csb.gov/husky-energy-refinery-explosion-and-fire/.*

[113] CSB, ''ExxonMobil Refinery Explosion,'' last updated May 3, 2017, *https://www.csb.gov/exxonmobil-refinery-explosion-/.*

[114] Chevron, ''Chevron and Honeywell Announce Start-up of World's First Commercial ISOALKY™ Ionic Liquids Alkylation Unit,'' last modified April 13, 2021, *https://www.chevron.com/stories/chevron-and-honeywell-announce-start-up-of-isoalky-ionic-liquids-alkylation-unit.*

[115] United Steelworkers, *A Risk Too Great: Hydrofluoric Acid in U.S. Refineries* (April 2013), *https://www.usw.org/workplaces/oil/oil-reports/A-Risk-Too-Great.pdf.*

[116] EPA–HQ–OLEM–2021–0312–0028; 0035, 0039, 0044, 0051, 0057, 0058, 0081, 0095, 0387, 0388.

[117] EPA–HQ–OLEM–2021–0312–0004.

[118] EPA–HQ–OLEM–2021–0312–0013; 0380.

[119] EPA–HQ–OLEM–2021–0312–0028.

[120] EPA–HQ–OLEM–2021–0312–0149.

[121] EPA–HQ–OLEM–2021–0312–0014; 0039, 0057, 0152.

[122] EPA–HQ–OLEM–2021–0312–0039.

should EPA determine that ''tiered protection should be implemented,'' it should require IST assessment and implementation at facilities in sectors with known hazard elimination or reduction methods, in areas with climate risks and other natural hazard risks, in communities with more than one RMP facility, and at facilities that are using or storing the highest quantity and toxicity of regulated chemicals and are most accident-prone.[123]

A few industry trade associations stated that STAAs and IST evaluations would not generate tangible safety outcomes beyond the current PHA requirements.[124] One of the industry trade associations also discussed EPA's decision to limit the number of facilities covered by STAA provisions in the 2017 amendments rule, which the commenter described as lacking evidentiary support.[125] An industry trade association that strongly opposed the STAA provision in the 2017 amendments rule supported its removal in the 2019 reconsideration rule, stating that such a STAA requirement would not improve the effectiveness of the rule in relation to protecting communities with environmental justice concerns; instead, it would divert resources.[126] An industry trade association stated that some industries already adopt inherently safer processes and technologies without direction from EPA.[127]

iv. Recent Public Input on HF

During EPA's 2021 listening sessions, many commenters, including individual commenters and advocacy groups, discussed the dangers of HF and modified HF and argued that facilities should be required to transition to safer alternatives.[128] An individual commenter said that HF is often located in facilities in communities with environmental justice concerns that are already exposed to many other hazards. A State elected official said that EPA should require refineries to evaluate the replacement of these chemicals and report their findings to EPA within a year.[129] A form letter campaign recommended an amendment to 40 CFR 68.169 which, if implemented, would convert all HF refineries to safer alternatives within 4 years.[130] A few individual commenters and an advocacy group expressed general support for this amendment.[131] Another individual commenter in support of this amendment stated that over 40 refineries containing large quantities of HF endanger 19 million people, including children, young adults, unhoused people, and more.[132]

v. STAA Applicability

EPA is proposing to limit the applicability of the STAA provisions to sources in the petroleum and coal products manufacturing (NAICS 324) and chemical manufacturing (NAICS 325) sectors, located within 1 mile of another RMP-regulated 324 or 325 facility. EPA is also proposing that all facilities in NAICS 324 using HF in an alkylation unit (approximately 45 facilities) conduct an STAA for the use of safer alternatives compared to HF alkylation. EPA believes that while most sectors regulated under 40 CFR part 68 could identify safer technology and alternatives, sources involved in complex manufacturing operations have the greatest range of opportunities to identify and implement safer technologies and alternatives, particularly related to inherent safety. These sources generally produce, transform, and consume large quantities of regulated substances under sometimes extreme process conditions and using a wide range of complex technologies.

Multiple factors led EPA to propose focusing the STAA requirement on densely co-located petroleum refining and chemical manufacturing facilities (*i.e.,* facilities with processes in NAICS codes 324 and 325 that are within 1 mile of another facility in those NAICS codes). The distance of 1 mile represents the median distance of facilities with 324 and 325 NAICS processes that have had accidents in the period from 2016 to 2020 to the nearest facility with a process in these NAICS in 324 or 325. Facilities in these NAICS codes experience more frequent accidental releases (see IV.A.2.vi, below). In the period from 2016 to 2020, communities near densely co-located facilities in these NAICS codes have experienced more frequent accidents than communities near other facilities in these NAICS codes and have had more offsite impacts from releases than other communities have experienced (see IV.A.2.vii, below). Additionally, 80% of 324 and 325 facilities located within 1 mile of another 324/325 facility have toxic worst case release scenario distance to endpoints reaching or exceeding 1 mile. The proximity of densely co-located refining and chemical manufacturing facilities creates a greater risk of an accident at one facility impacting safety at the nearby facility, thereby increasing the potential for a release at the second facility (a ''knock-on'' release). Communities in areas with such densely co-located petroleum refining and chemical manufacturing facilities face overlapping vulnerability zones and a heightened risk of being impacted by an accidental release relative to other communities. The heightened risk of community impacts presented by densely co-located refineries and chemical manufacturers make it reasonable for EPA to propose the 1 mile criterion for additional prevention measures such as STAA. The 1 mile criterion also serves to limit the burden on portions of both the petroleum refining and chemical manufacturing industries relative to the 2017 amendments rule while promoting accident prevention to a greater extent than the approach taken in the 2019 reconsideration rule (see IV.A.2.viii, below).

EPA is proposing that all HF alkylation processes at petroleum refineries (NAICS 324) conduct a STAA review primarily due the recent incidents discussed above where HF was nearly released when there were explosions, fires, and other releases that could have triggered releases of HF. The recent incident involving Philadelphia Energy Solutions,[133] where some of the HF stored apparently was released in a fire but a worse release was prevented by trained staff activating release mitigation systems close to the time the event started, raises the question of whether a more inherently safe process could have completely avoided a potential catastrophe, or whether reliance on operational procedures and trained staff is adequate. As mentioned above, there are recognized potentially safer alternatives available for HF alkylation that have been successfully implemented by refineries, such as sulfuric acid alkylation, ionic liquid alkylation, or solid acid catalyst alkylation. While EPA is not proposing that all existing refinery processes undergo STAA review, the process of HF alkylation, with several known alternatives and with recent incident

[123] EPA–HQ–OLEM–2021–0312–0170.

[124] EPA–HQ–OLEM–2021–0312–0037; 0053, 0071.

[125] EPA–HQ–OLEM–2021–0312–0071.

[126] EPA–HQ–OLEM–2021–0312–0077.

[127] EPA–HQ–OLEM–2021–0312–0077.

[128] EPA–HQ–OLEM–2021–0312–0013; 0035, 0043, 0054, 0036, 0319, 0146, 0067, 0068, 0096.

[129] EPA–HQ–OLEM–2021–0312–0043.

[130] EPA–HQ–OLEM–2021–0312–0067.

[131] EPA–HQ–OLEM–2021–0312–0354; 0379, 0382, 0384.

[132] EPA–HQ–OLEM–2021–0312–0380.

[133] CSB, ''Philadelphia Energy Solutions (PES) Refinery Fire and Explosions,'' last modified October 16, 2019, *https://www.csb.gov/philadelphia-energy-solutions-pes-refinery-fire-and-explosions-/.*

history, EPA believes may merit a rule-based prevention approach rather than selective oversight.

vi. Accident Frequency

EPA notes that RMP facilities in the two selected sectors have been responsible for a relatively large number of accidents, deaths, injuries, and property damage.[134] Although the per-facility accident rate between 2016 and 2020 for all regulated facilities was 3 percent (n = 382 facilities reporting at least one accident out of 12,855 unique facilities reporting between 2016 and 2020), the sector accident rates (number of unique facilities with accidents per sector divided by the number of unique facilities in each sector) for petroleum and coal manufacturing were seven times higher (23 percent, n = 41 out of 177) and two times higher for chemical manufacturing (6 percent, n = 96 out of 1631). Moreover, of the 70 facilities experiencing two or more incidents between 2016 and 2020, 43 (60 percent) of these facilities were NAICS 324 and 325. Implementation of safer technology and alternatives by these facilities in the chemical manufacturing and petroleum refining sectors may prevent serious accidental releases in the future.

vii. Accident Severity

EPA is proposing to apply STAA requirements to processes at facilities in NAICS 324 and 325 located within 1 mile of another NAICS 324 or 325 facility, as the increased accident frequency found in these industries is exacerbated when examining those facilities in more facility-dense areas (here defined as facilities within 1 mile of another facility).

Based on accidents occurring between 2016 and 2020, communities located near facilities in NAICS 324/325 that are located within 1 mile of another 324/325 facility are 1.5 times more likely to have been exposed to accidents at these facilities as compared to communities near facilities in NAICS 324/325 that are not located within 1 mile of another 324/325 facility. This increased accident frequency in facility-dense areas has resulted in considerably larger offsite impacts, including over 47,000 people sheltering in place, 56,800 people evacuating, and over 153 million dollars in offsite property damage.[135]

Using RMP data from 2016 to 2020, EPA estimates the proposed approach impacts approximately 563 unique, active facilities. EPA is making available in the Technical Background Document, a list of sources it believes would be required to conduct STAA based on the location information currently provided in facility risk management plans. In estimating these facilities, EPA used the latitude and longitude reported to EPA by facilities, which can vary in the measurement of facility location. For example, facilities can report location based on the regulated process, facility fenceline or facility centroid. EPA is proposing to define facility location based on distance to the facility fenceline but seeks comment on other definitions of facility proximity.

Although accident rates for the paper manufacturing sector (NAICS 322, 17 percent, 20 accidents at 11 out of 65 facilities between 2016 and 2020) were similar to NAICS 324, EPA has not proposed STAA requirements at facilities in NAICS 322 due to the low actual number of incidents and comparatively fewer accident consequences. While 30 workers were injured (non-fatally) as a result of these accidents, the accidents resulted in no other reported offsite consequences (*i.e.,* sheltering in place, evacuation, or offsite property damage).[136]

viii. Discussion of Prior STAA Analysis

In its 2019 decision to rescind STAA requirements, EPA relied on data analysis of RMP accidents from States with STAA- and IST-like regulations, primarily New Jersey's Toxic Catastrophe Prevention Act (TCPA) regulation and the Massachusetts Toxic Use Reduction Act. Using the accident data EPA provided in the rulemaking docket, EPA compared accident data for New Jersey and Massachusetts RMP facilities from 2008 through 2016 to the same measures for the national set of RMP facilities.[137] EPA interpreted the results as showing that New Jersey and Massachusetts RMP facilities reported more RMP-reportable accidents than RMP facilities nationally over the same period. Although the rate of RMP facility accidents in New Jersey and Massachusetts have declined, EPA found that this decline is less than the decline in accidents for RMP facilities nationally over the same period. New Jersey and Massachusetts exhibited a 1.7 percent and 3.5 percent annual decline in accident frequency, respectively, whereas nationally, RMP facilities experienced a 4.1 percent decline in accident frequency over the same period. The normalized accident rate in New Jersey and Massachusetts declined by approximately 2 percent and 3 percent per year, respectively, whereas the normalized accident rate at RMP facilities nationwide declined by 3.3 percent per year. Regarding accident severity, EPA examined the impacts of RMP-reportable accidents in New Jersey over the same period and could discern no declining trend in accident severity in New Jersey. Based on this data analysis, EPA concluded the New Jersey and Massachusetts programs had not resulted in a reduction in either accident frequency or severity at RMP-regulated facilities subject to the provision, and therefore the costs were disproportionate to the benefits.

Comments provided by the New Jersey Department of Environmental Protection (NJDEP) point out information that questions the validity of these assumptions.[138] First, EPA based its decision to rescind STAA requirements for NAICS codes 324 and 325 on accident information for all regulated NAICS codes, thereby applying assumptions based on analysis of all accidents, rather than analysis of NAICS 324 and 325 specifically, to the subset of facilities it intended to regulate. Second, NJDEP points out that IST is only one measure to prevent accidental releases; therefore, the absence of a decrease in accidents should not be solely attributed to ineffectiveness of IST. NJDEP also points out that facilities with better accident investigation requirements and release reporting systems may be reporting more accidents than those without additional reporting programs. EPA believes these arguments apply to the 2019 Massachusetts analysis as well. EPA now acknowledges that applying a rate developed through analysis of all regulated facilities cannot be applied to the specific sectors that were selected for regulation (NAICS codes 324 and 325) as a conclusion based on comparing New Jersey's overall accident rate to the national overall accident rate is inconclusive about sectors that would have been subject to the RMP STAA requirement.

Additionally, EPA realizes it may have been important to consider that its conclusions were derived from analysis of a small number of accidents from a small sample size with a high degree of intra-year variability. For example, RMP

[134] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

[135] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

[136] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

[137] EPA–HQ–OEM–2015–0725–2063.

[138] EPA–HQ–OLEM–2021–0312–0039.

data from New Jersey [139] demonstrate that the facility accident rates were 2 per 86 in 2008 and 2 per 80 in 2016, extrapolating a slope showing a 1.7 percent decrease per year. Yet accidents ranging from 0 to 4 and demonstrating a high amount of intra-year variability are inconclusive. EPA examined data for NAICS 324 and 325—those proposed to be regulated in this action—and found similarly low accident counts (0 to 2 per year), prohibiting meaningful conclusions and leaving the Agency unable to determine if STAA provisions are ineffective. Therefore, EPA contends that it is more appropriate to emphasize in this rulemaking factors like the expert views of CSB and other researchers, case studies, and EPA's technical judgment rather than the analysis comparing accident rates under the New Jersey TCPA to national rates for RMP facilities that helped form the basis for rescinding STAA in the 2019 reconsideration rule. Finally, in proposing to reestablish STAA requirements for facilities in NAICS 324 and 325 located within 1 mile of another NAICS 324 or 325 facility and those refineries with HF alkylation processes, EPA has determined that there are likely limited legitimate reliance interests associated with the 2019 reconsideration rule's elimination of these requirements. The compliance date for this requirement on affected facilities is proposed to be three years after this rule becomes final, which, based on EPA's announced plans in the Unified Regulatory Agenda, would be sometime in August 2026. For those sources who last performed a PHA prior to August 2021, they would be able to integrate STAA in their next PHA. For those performed since August 2021 and before this proposed rule (approximately one year), they would need to perform the STAA outside the normal PHA timeframe. This should be a relatively small number of facilities in part because of the limited applicability of the preferred approach and the pattern of years ending in 4s and 9s being the heaviest years for RMP submittals. Sources performing PHAs after this proposed notice are on notice of EPA's intent, so whatever reliance interest there was on the 2019 reconsideration rule to this proposal should be minimal.

ix. STAA Technology Transfer

Since the inception of RMP, the required elements of risk management plans have been a narrative executive summary and primarily fields of check boxes, dates, and numbers that summarize RMP rule compliance activities. The format facilitates electronic submission and data analysis. EPA established central processing and handling to relieve states of data handling burdens while also promoting easy access for stakeholders. As a result of legislation in 1999 and a general increase in security concerns post-September 11, 2001, portions of the risk management plan are restricted, either on a ''need to know'' basis (much of the release scenario information) or only released on compact discs/drives when requested through the Freedom of Information Act (FOIA). In practice, the minimal narrative in risk management plans and the restrictions on access to these plans have minimized the transfer of knowledge of successful accident prevention practices among all stakeholders (*e.g.,* regulated industry, communities, labor, researchers, planners, responders).

In the 2017 amendments rule, EPA added an STAA requirement to the PHA portion of the prevention program requirements for three industry sectors: petroleum refining (324), chemical manufacturing (325), and paper production (322). In addition to the previously existing requirement to report on any changes since the last PHA (40 CFR 68.175(e)(6)), EPA added a requirement for sources to report on whether IST/ISD—one STAA technique—had been adopted since the last PHA, and if yes, to report on the broad technology category (*i.e.,* chemical substitution or minimization, process simplification, and/or moderation of the process conditions). The 2019 final reconsideration rule eliminated the additional reporting requirement when EPA eliminated the STAA prevention provision. EPA is now proposing to reinstate the provisions to 40 CFR 68.175(e)(7) to report whether the current PHA addresses the STAA requirement proposed in 40 CFR 68.67(c)(9), whether any IST/ISD was implemented as a result of 40 CFR 68.67(c)(9)(ii), and if any IST/ISD was implemented, to identify the measure and technology category.

During EPA's 2021 listening sessions and public comment period, some stakeholders supporting IST/ISD advocated for promoting better reporting and public availability of ''solutions data''—the successful practices companies are using to reduce and remove RMP chemical hazards—about IST/ISD and other measures adopted by sources to reduce risk. For example, a few advocacy groups expressed that solutions data should be incorporated into RMP by reporting it in risk management plans from STAAs, reporting it on RMP deregistration forms, including it in public meetings after incidents to address the best options at the top of the hierarchy of prevention, and compiling it into a hazard reduction clearinghouse, through which EPA could collect and disseminate lessons learned from successful industry practices.[140] This sentiment was echoed by another advocacy group, which recommended that EPA ensure that facilities that are no longer regulated under RMP coordinate with regulatory agencies and share practices or approaches with other RMP facilities.[141] These comments suggest ways of promoting accident prevention technology transfer and improving on not only the existing rule, but also the reporting provisions of the 2017 amendments rule. EPA has examples of existing information centers which aggregate best practices, such as the Pollution Prevention Resource Exchange.[142]

EPA has included an outline of the potential information that would be collected from deregistering facilities as well as in the STAA documentation in Section 10 of the Technical Background Document. EPA intends for this not to be a cumbersome exercise, but rather, one that is based on information facilities likely already have, with EPA making it available for other industries to identify safer alternatives. EPA solicits comment on any additional information which would be useful for such a repository.

x. Alternative Options

EPA considered other options and is seeking comment on these alternative approaches. In contrast to the 2017 amendments rule, EPA is not proposing to apply STAA to NAICS 322 (pulp mills) based on the smaller number of accidents at these facilities in the last 5 years (n = 20).[143] EPA considered applying STAA requirements to facilities in NAICS 324 and 325 with a reportable accident within the last 5 years, estimating that this would apply to approximately 140 RMP facilities during their 5-year PHA schedule.

EPA also considered applying these provisions to all NAICS 324 and 325

[139] EPA–HQ–OEM–2015–0725–2063, p. 36.

[140] EPA–HQ–OLEM–2021–0312–0014; 0058, 0148.

[141] EPA–HQ–OLEM–2021–0312–0149–18.

[142] EPA. Pollution Prevention Resource Exchange (P2RX). Available at: *https://www.epa.gov/p2/pollution-prevention-resource-exchange-p2rx#:~:text=The%20Pollution%20Prevention%20Resource%20Exchange,and%20measured%20P2%20program%20results.*

[143] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

facilities, which would be similar to provisions promulgated in the 2017 amendments rule and be estimated to apply to 1,660 active RMP facilities at least every 5 years. Given the high accident rates in NAICS 324 and 325 industries without considering proximity to other facilities, EPA solicits comment on whether the RMP rule should simply reinstate the 2017 rule provisions requiring STAA for NAICS 324 and 325.

As discussed above regarding recent public comments, EPA is aware that some commenters would like for all regulated facilities to implement inherently safer technologies. With respect to whether the Agency should require implementation of IST/ISD, in this rulemaking, EPA does not intend to require facilities implement identified IST. Instead, EPA has required evaluation of STAA as part of the PHA, as well as employee involvement in the STAA evaluation. EPA believes facility owners and operators will adopt IST and other safer technology alternatives when it is practicable technically and economically and when the risk reduction is significant even in the absence of a mandate. Part of the basis for this belief is due to most of the economic savings resulting from reduced accidents will be from reduced on-site property damage to the owner or operator's facility. However, EPA seeks comment on whether the Agency should require implementation of technically practicable IST/ISD and STAAs. With respect to whether all industries should be required to conduct STAA analysis or investigate ISTs, as discussed above, while in theory considering IST may reduce the probability of accidents, the accident history for most industries does not establish that IST would substantially reduce accident likelihood or impacts, and that EPA judges lack as many opportunities for STAA to successfully reduce accidents. To the extent that commenters have additional considerations relating to probability and the effectiveness of STAA provisions if extended to all industries, EPA requests commenters provide this information to EPA.

In this proposed rulemaking, EPA is only requiring STAA in industries with the most frequent and severe accidents with offsite consequences. As discussed in section IV.A.2.v., above, EPA has identified densely co-located refineries and chemical manufacturing facilities (*i.e.,* facilities with processes in NAICS 324 and 324 within 1 mile of another facility with processes in these NAICS) as a class of facilities that present a heightened risk to nearby communities. EPA seeks comment on whether the proposal to limit the STAA provisions to 324 and 325 regulated processes within 1 mile of another 324 and 325 regulated facility is appropriate or if another distance would be appropriate; commenters should provide rationales for proposed distance alternatives. EPA also solicits comment on other industries for which STAA analysis should be required and seeks comment on how EPA might justify extending these provisions to other industries with fewer accidents.

Finally, EPA considered requiring implementation of IST identified in the course of an STAA, both for the proposed regulated industries and for alternative options examined. The known costs of certain STAA changes range from less than $1,000 to over $100 million. For many significant STAA changes, the costs would be facility-specific, and EPA has little information on the potential costs of large STAA projects. Due to the uncertainty of STAA provision implementation, it is challenging to identify the benefits that offset implementation costs.

Commenters have identified industries for which EPA should require the assessment and specifically suggested implementation of safer technologies for water treatment facilities; [144] however, EPA is not requiring STAA analysis for water treatment facilities for specific reasons. EPA relies on two reasons for not requiring STAA analysis for water treatment facilities: our view that the probability of an incident is low, and our understanding that such a requirement would unreasonably burden State and local governments, especially when applied to existing sources. First, in evaluating the potential for large offsite consequences based on the numbers of persons potentially exposed, only one of 22 incidents in NAICS 2213 between 2016 and 2020 reported an offsite impact: an evacuation of 125 people caused by an ammonia leak.[145] Risk to communities is a function of probability, hazard, and exposure. Commenters who asked that the Agency mandate IST for water treatment facilities or at least an assessment have identified the number of persons potentially exposed in the event of an accidental release, but generally do not address the accident history data showing the low probability of an incident when discussing the risk to be addressed by requiring IST or STAA analysis at water treatment facilities. Second, most water treatment facilities are operated by local and State governments. When conducting discretionary rulemaking, EPA considers the costs to State and local governments. The benefits of requiring STAA for these facilities would have to be justified in relation to the costs and EPA needs more information on such costs before applying any requirements to these facilities. Therefore, EPA solicits comments on the actual and updated costs to government-owned water treatment facilities. Additionally, EPA solicits comments on a provision which would require consideration of ISD in the design of new water treatment facilities, when the costs of designing in safer technologies are recognized to be less than the cost of retrofitting existing facilities.

EPA has used accident history data to provide insight into the probability with which these accidents have actually occurred to support requiring STAA analysis for portions of particular industries. However, EPA recognizes that substance and process-specific accident history may not always be an appropriate metric for probability of an accident or the risk communities face. For example, the consequences of an HF release are so potentially catastrophic, and with known alternatives existing, EPA has proposed that facilities with HF alkylation evaluate and document STAA as part of their PHA. In this case, EPA focused on numerous accidental releases that had the potential to cause a secondary release of HF from alkylation units rather than actual HF releases and their consequences. EPA solicits comment on what other information or consideration it can use to assess probability of an accident in other industries without substantial accident history data as well as what specific chemicals or process may merit the most focus, and how EPA may require STAA requirements for industries without a history of accidents.

xi. Proposed Revisions to Regulatory Text

Definitions (40 CFR 68.3). EPA is proposing to add several definitions that relate to the STAA in 40 CFR 68.3. EPA is adding these definitions to describe risk reduction strategies that the owner or operator can use when considering safer technology and alternatives.

First, EPA is proposing a similar definition for IST/ISD as in the 2017 amendments rule. The proposed definition includes risk management measures that would eliminate, replace,

[144] EPA–HQ–OLEM–2021–0312–0014; 0017, 0039, 0149.

[145] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022), Appendix A.

or reduce the use of regulated substances or make operating conditions less hazardous or less complex.

As in the 2017 amendments rule, EPA is also proposing definitions for ''passive,'' ''active,'' and ''procedural'' measures. EPA proposes that ''passive measures'' (in 40 CFR 68.3) be defined as those that rely on measures that reduce a hazard without human, mechanical, or other energy input. EPA also proposes to define ''active measures'' as those that involve engineering controls that rely on mechanical, or other energy input to detect and respond to process deviations. Examples of active measures include alarms, safety instrumented systems, and detection hardware (*e.g.,* hydrocarbon sensors). Lastly, EPA proposes a definition for ''procedural measures'' that includes policies, operating procedures, training, administrative controls, and emergency response actions to prevent or minimize incidents. Examples of procedural measures include administrative limits on process vessel fill levels and procedural steps taken to avoid releases.

Finally, EPA is proposing to define ''practicability'' as the capability of being successfully accomplished within a reasonable time, accounting for technological, environmental, legal, social, and economic factors. EPA clarifies in this definition that environmental factors would include consideration of potential transferred risks for new risk reduction measures. EPA is not requiring owners or operators to implement identified IST/ISD. Although an owner or operator may choose not to implement a safer technology or design identified on account of its cost, EPA is proposing that the evaluation of practicability be first based on technological, environmental, legal, and social factors, with economic considerations evaluated last. EPA proposes that the practicability assessment be documented with the technological, environmental, legal, social and economic factors outlined, along with any methods or processes used to determine practicability.

xii. Process Hazard Analysis (40 CFR 68.67)

EPA is proposing to modify the process hazard analysis (PHA) provisions by adding paragraph (c)(9) to 40 CFR 68.67 to require that the owner or operator of a facility with Program 3 processes in NAICS codes 324 and 325 located within 1 mile of another 324 and 325 regulated facility address safer technology and alternative risk management measures applicable to eliminating or reducing risk from process hazards. EPA proposes that ''1 mile'' be interpreted to mean ''1 mile to the nearest fenceline'' for a facility in NAICS 324 or 325. EPA is proposing to add paragraph (c)(9)(i) to specify that the analysis include, in the following order, IST or ISD, passive measures, active measures, and procedural measures. The owner or operator may evaluate a combination of risk management measures to reduce risk. By incorporating these requirements into the PHA, EPA proposes to require facilities to address STAA in processes that already exist, rather than only during the design phase. The results of the STAA must be documented as part of the current PHA provisions in 40 CFR 68.67(e), which require the owner or operator to document actions to be taken and resolution of recommendations. EPA is also proposing that a summary of this information be submitted to EPA as part of the STAA Technology Transfer section. Finally, EPA is proposing to add paragraph (c)(9)(iii) to require that the STAA team include and document the involvement of one member who works in the process and has expertise in the process being evaluated.

EPA is also proposing to add paragraph (c)(9)(ii) to require that the owner or operator determine and document the practicability of the IST or ISD considered. EPA intends for this process to be separate and additional to the PHA requirements described above. EPA solicits comment on if it should only require the STAA as part of the PHA, without the additional practicability assessment.

The PHA must be updated and revalidated at least every 5 years in accordance with paragraph 40 CFR 68.67(f). This provides the owner or operator opportunities to evaluate the practicability of IST or ISD considered since the last PHA review. EPA contends that 5-year revalidation will give the owner or operator the opportunity to identify new risk reduction strategies, as well as revisit strategies that were previously evaluated to determine whether they are now practicable as a result of changes in cost and technology. EPA seeks comment on these proposed revisions.

b. Root Cause Analysis

EPA is proposing to require all facilities with Program 2 and 3 processes to conduct a root cause analysis as part of an incident investigation for an RMP-reportable accident as defined under 40 CFR 68.42. This includes requiring the root cause analysis to include specific elements, requiring the use of a recognized investigation method, and requiring that investigations are completed within 12 months. Based on RMP-reportable accidents from 2016 to 2020, EPA estimates this provision will apply to an average of 100 facilities per year.

In the 2017 amendments rule, EPA amended 40 CFR 68.81 to add that incident investigations shall include ''the factors that contributed to the incident including the initiating event, direct and indirect contributing factors, and root causes'' and that ''root causes shall be determined by conducting an analysis for each incident using a recognized method.'' In the 2019 reconsideration rule, EPA rescinded the root cause analysis requirements, stating that EPA was ''unable to make a direct connection between the presence or absence of these provisions and a number of accidents prevented'' (84 FR 69834). EPA also stated that it did not rely exclusively on a comparison of costs and benefits to justify the rescission, but also acted to maintain consistency with the OSHA PSM standard. As a result of the 2019 removal of root cause analysis requirements, EPA's current causal incident investigation requirements under 40 CFR 68.60 and 68.81 require investigation into only ''the factors that contributed to the incident.''

Since the 2019 reconsideration rule, EPA has coordinated with OSHA to ensure that any proposed incident investigation root cause analysis provisions do not contradict OSHA PSM requirements. In the 2019 reconsideration rule, EPA also indicated that it had not conducted any overall analysis of data from RMP accident investigations conducted by regulated facilities to determine how well these investigations identified causes and contributing factors (84 FR 69834). However, this is in part because EPA has not required the investigation of root causes and therefore cannot analyze such data. EPA therefore revisited commenters' points concerning facilities with more than one accident. Updated analysis of EPA's RMP accident reporting data identified repeated accidents in facilities within the same process.[146]

For the 2019 reconsideration rule, EPA relied upon data demonstrating that only a subset of facilities experience accidents. This holds true for the updated analysis, with only 3 percent (n = 382) of facilities between

[146] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

2016 and 2020 reporting one RMP-reportable accident and 0.5 percent (n = 70) of all RMP facilities reporting two or more RMP-reportable accidents during that period. Among facilities reporting accidents, facilities who reported one often have multiple accidents, indicating a failure to properly address circumstances leading to subsequent accidents. For example, between 2016 and 2020, these facilities accounted for 36 percent (n = 176) of all accidents reported (n = 488). Additionally, of these 70 facilities, 61 percent (n = 43) had experienced another accident prior to 2016. Between 2004 and 2020, 18 facilities had more than 10 accidents each, with two facilities reporting over 20 incidents each to EPA.[147] These accidents may have been preventable if root cause analyses had been required. EPA believes multiple accidents result, in part, from a failure to thoroughly investigate and learn from prior accidents.

Although EPA cannot be certain that in all cases, subsequent accidents are due to a failure to conduct a root cause analysis of an earlier incident, EPA finds that of the 70 facilities with multiple accidents between 2016 and 2020, 60 percent (n = 42) reported repeat causal factors within the same process.[148] While this could be a failure to implement incident investigation findings or could be unrelated to the earlier incident, multiple accidents within the same process with the same causal factors indicate a likely failure to rectify prior failures and root causes of these incidents. EPA believes the occurrence of such subsequent incidents indicates an overall failure to identify and implement controls that may have prevented future incidents.

In proposing to reestablish the root-cause analysis requirements, EPA has determined that there are likely no legitimate reliance interests associated with the 2019 reconsideration rule's elimination of these requirements. The 2019 rule has only been in place for three years and any accident investigation in the past, under way, or that otherwise would be required that predate the proposed rule will not have to be revised or changed in scope should EPA finalize the proposed change. Further, the burden of the proposed root cause analysis is relatively small. Few sources will have to conduct one because accidents occur at a small number of sources and many sources perform root cause analyses already in a manner consistent with industry or company protocols. The potential benefit from improved incident investigations is apparent from the significant percentage of sources and processes that have another accident after the first. Rather than relying on negotiations in enforcement actions as a basis for promoting root cause analyses as necessary under the approach of the 2019 reconsideration rule, EPA believes the delays of negotiations and the transaction costs of such an approach, and the benefit of a root cause approach to incident investigations, makes it more prudent and reasonable to impose a rule requirement for root cause analysis in incident investigations rather than the approach adopted in 2019.

i. Root Cause Analysis Background

EPA discussed root cause analysis at length in the 2016 proposed amendments. As discussed, CCPS defines root cause analysis as: ''A formal investigation method that attempts to identify and address the management system failures that led to an incident. These root causes often are the causes, or potential causes, of other seemingly unrelated incidents. Root cause analysis identifies the underlying reasons the event was allowed to occur so that workable corrective actions can be implemented to help prevent recurrence of the event (or occurrence of similar events).'' [149] EPA also discussed that causes of incidents are commonly referred to as ''causal factors'' (also known as contributing causes, contributory causes, contributing factors, or critical factors). CCPS defines a causal factor as a ''major unplanned, unintended contributor to an incident (a negative event or undesirable condition), that if eliminated would have either prevented the occurrence of the incident or reduced its severity or frequency.'' [150] Causal or contributing factors usually have underlying reasons for why they occurred, which are known as ''root causes.'' CCPS defines a root cause as a ''fundamental, underlying, system-related reason why an incident occurred that identifies a correctable failure(s) in management systems.'' [151] EPA proposed that root causes shall be determined by conducting a root cause analysis for each incident using a recognized method or approach. CCPS' ''Guidelines for Investigating Chemical Process Incidents'' discusses incident investigation approaches and techniques and root cause analysis methods.[152]

EPA previously discussed that identifying and addressing incident contributing factors and their root causes helps eliminate or substantially reduce the risk of reoccurrence of the incident and other similar incidents, citing notable incidents that CSB investigated. These CSB investigations of the 2004 Formosa Plastics Corporation incident,[153] the 2005 BP Texas City Refinery incidents,[154] and the 2010 Millard Refrigerated Services incident [155] found that root causes of prior, similar incidents were not identified, a lack that contributed to subsequent incidents.

In the 2016 proposed amendments, EPA also discussed that root cause analysis of accidents is an accepted safe management practice used by many industries, noting that the American Chemistry Council (ACC) conducts root cause analyses as part of its Responsible Care program.[156] In addition, New Jersey's TCPA,[157] as well as California's PSM for Refineries,[158] Contra Costa County Health Services,[159] and the City of Richmond, California, Industrial Safety Ordinances, already require root cause analyses for major chemical accidents.[160]

[147] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

[148] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

[149] CCPS, ''Root Cause Analysis (RCA),'' accessed February 15, 2022, *https://www.aiche.org/ccps/resources/glossary/process-safety-glossary/root-cause-analysis-rca.*

[150] CCPS, *Guidelines for Investigating Process Safety Incidents, 3rd Edition* (2019).

[151] CCPS, *Guidelines for Investigating Process Safety Incidents, 3rd Edition* (2019).

[152] CCPS, *Guidelines for Investigating Process Safety Incidents, 3rd Edition* (2019).

[153] CSB, ''Formosa Plastics Vinyl Chloride Explosion,'' last modified March 6, 2007, *https://www.csb.gov/formosa-plastics-vinyl-chloride-explosion/.*

[154] CSB, ''BP America Refinery Explosion,'' last modified March 20, 2007, *https://www.csb.gov/bp-america-refinery-explosion/.*

[155] CSB, ''Millard Refrigerated Services Ammonia Release,'' last modified January 15, 2015, *https://www.csb.gov/millard-refrigerated-services-ammonia-release/.*

[156] EPA–HQ–OEM–2014–0328–0694.

[157] NJDEP, Toxic Catastrophe Prevention Act Program, *TCPA Program Consolidated Rule Document,* section 68.42 (February 1, 2016), p. 38, *https://www.nj.gov/dep/rules/rules/njac7_31_consolidated.pdf.*

[158] California General Industry Safety Orders, *Process Safety Management for Petroleum Refineries,* General Industry Safety Orders section 5189.1(o) (2017).

[159] Contra Costa County, *Chapter 450–8—Risk Management,* Ord. 98–48 (1998), *https://cchealth.org/hazmat/pdf/iso/Chapter-450-8-RISK-MANAGEMENT.pdf.*

[160] City of Richmond, California, *Chapter 6.43—Industrial Safety* (2016), *https://cchealth.org/hazmat/pdf/iso/RISO-Chapter-6-43-INDUSTRIAL-SAFETY.pdf.*

ii. Recent Public Comments on Root Cause Analysis

EPA received comments on root cause analysis during its 2021 listening sessions. For instance, a labor organization expressed support for requiring RMP facilities to conduct root cause analyses as part of incident investigations, as root cause analyses can prevent similar events from occurring; this commenter suggested that a lot can be learned from near misses and smaller incidents.[161] The commenter suggested that the definition of ''root cause'' could be revised to read, ''a fundamental, underlying, system-related reason why an incident occurred that identifies a correctable failure(s) in management systems or process design.'' The commenter also suggested that EPA should implement a timeline for near-miss investigations, requiring initiation of the incident investigation within 48 hours of an incident, a preliminary report within 90 days, and a final report within 6 months. Further, the commenter suggested that EPA require incident investigation teams including experts involved in the process and the root cause analysis method, as well as employees and their representatives and applicable contractors. Similarly, an advocacy group suggested that the incident investigation should be completed within 12 months of the incident.[162] The advocacy group went on to conclude that incident investigations should include a root cause analysis, and that facilities should investigate near misses as well as accidents where the affected process was decommissioned or destroyed. Another commenter stated that owners or operators should report serious near misses to EPA and that these incidents should be compiled in a publicly available online database.[163]

EPA also received comments that did not support root cause analysis provisions. A regional industry trade association expressed concern about the ''near-miss'' standard of the root cause analysis.[164] This commenter stated that the quality of safety reviews under the 2017 amendments rule could be diluted by applying them to high-frequency, low-consequence events. The commenter also stated that the near-miss requirement would impose significant administrative burdens and economic costs on regulated facilities, especially without a clear threshold for a near-miss event. The commenter requested that EPA not adopt this proposal from the 2017 amendments rule. Similarly, another industry trade association stated that facilities do not benefit from a burdensome, one-size-fits-all requirement.[165] This commenter went on to say that near-miss incidents are often examples of active process protections working as designed and requiring a root cause analysis of near-miss events would create a disincentive for reporting. An industry trade association stated that the root cause analysis under the 2017 amendments rule is duplicative of the root cause analysis conducted for incident investigations under OSHA PSM regulations, as well as some State regulations.[166] An individual commenter also expressed general opposition to the root cause analysis requirement, stating that most companies already have a tiered process for conducting incident investigations—including root cause analyses—and that the size of the investigation should match the size of the incident.[167] Meanwhile, an industry trade association stated that EPA's definition of ''root cause'' in 2017 was too narrow and would potentially exclude non-system-related root causes, such as human error.[168] Another industry trade association stated that requiring an incident investigation before ''de-registering'' a process would provide no benefit.[169]

iii. Investigation Timeframe

In the 2017 amendments rule, EPA discussed that conducting incident investigations as soon as possible after an incident may yield better quality data and information, although it may take time to collect, validate, and integrate data from a range of sources. EPA has discovered situations where owners or operators of regulated facilities indefinitely delayed completing incident investigations.

EPA's own experience with accident investigation has shown that a major accident investigation can take up to a year, or even longer. Taking into consideration the need to complete an investigation while allowing the proper time to determine the correct root causes, EPA is again proposing to require that facility owners or operators complete an incident investigation report as soon as reasonably practicable, but no later than 12 months after an RMP-reportable accident. For very complex incident investigations that cannot be completed within 12 months, EPA is allowing an extension of time if the implementing agency (*i.e.,* EPA and delegated authorities) approves the extension in writing. EPA believes that 12 months is long enough to complete most complex accident investigations but will allow facilities more time if they consult with their implementing agency and receive approval for an extension.

In the 2017 amendments rule, EPA noted that the Agency's own requirements under the Petroleum Refinery Maximum Achievable Control Technology (MACT) and New Source Performance Standards (NSPS) regulations already require root cause and corrective action analyses for certain release events[170] with a more stringent timeframe (*i.e.,* 45 days) for completing these analyses than the 12 months specified in this proposed rule. RMP-regulated facilities that are also required to meet the MACT and NSPS root cause analysis requirements must continue to meet the timeframes specified under those rules, as applicable. EPA again proposes that root cause analyses conducted to meet those requirements may also be used to comply with the root cause analysis requirements proposed herein, provided that the analysis meets the requirements of 40 CFR 68.60 or 68.81. EPA did not receive substantive comments on this provision, but again invites comments on this approach.

iv. Proposed Revisions to Regulatory Text

EPA is proposing to define ''root cause'' as a fundamental, underlying, system-related reason why an incident occurred. For incidents that meet the accident history reporting requirements under 40 CFR 68.42, EPA is also proposing to amend 40 CFR 68.81 and 68.60 to require the owner or operator to investigate the factors that contributed to an incident. In the proposed amendment, these factors will now include root causes, and these root causes shall be determined by conducting an analysis for each incident using a recognized method (such as CCPS). EPA is also amending both 40 CFR 68.81 and 68.60 to require that a report be prepared at the conclusion of the investigation and completed within 12 months of the incident (though it will allow for facility owners or operators to request an extension from the implementing agency).

[161] EPA–HQ–OLEM–2021–0312–0057.
[162] EPA–HQ–OLEM–2021–0312–0170.
[163] EPA–HQ–OLEM–2021–0312–0076.
[164] EPA–HQ–OLEM–2021–0312–0037.
[165] EPA–HQ–OLEM–2021–0312–0078.
[166] EPA–HQ–OLEM–2021–0312–0045.
[167] EPA–HQ–OLEM–2021–0312–0050.
[168] EPA–HQ–OLEM–2021–0312–0071.
[169] EPA–HQ–OLEM–2021–0312–0078.
[170] 40 CFR 63.648(j)(6) and (j)(7)), and 40 CFR 60.103a(d).

v. ''Near Miss'' Definition

In the 2017 amendments rule, EPA considered, but elected not to finalize, a regulatory definition of ''near miss'' to identify incidents that require investigation. At the time, EPA stated that the criteria for determining incidents that require investigation would continue to include events that ''could reasonably have resulted in a catastrophic release.'' As discussed, adding the term ''near miss'' was not intended to expand the types of incidents required to be investigated, but rather, was intended as a clarification of incidents that may have reasonably resulted in a catastrophic release and were already required to be investigated. EPA notes that even without a ''near miss'' definition, these incidents are still currently required to be investigated. EPA also notes that the definition of ''near miss,'' as described here, is unrelated to the root cause analysis provisions described above; 40 CFR 68.42 criteria would not be applicable to near misses. EPA may ultimately believe that adding a definition of a ''near miss'' may help clarify incident investigation requirements overall. During the 2017 rulemaking, however, comments demonstrated that adding the ''near miss'' definition as discussed at that time instead resulted in confusion about incident investigation requirements.

EPA is not proposing a definition of ''near miss'' as part of this rulemaking. Nevertheless, it solicits comments on a potential definition of ''near miss'' that would address difficulties in identifying the variety of incidents that may occur at RMP facilities that could be near misses that should be investigated. For example, CCPS defines a ''near miss,'' as ''an incident in which an adverse consequence could potentially have resulted if circumstances (weather conditions, process safeguard response, adherence to procedure, *etc.*) had been slightly different.'' [171] During the 2019 proposed RMP reconsideration rule comment period, NJDEP provided recommended draft text for 40 CFR 68.81 that would require investigation of all accidental releases and near misses (instead of incidents that resulted in or could reasonably have resulted in a catastrophic release) and included a definition of ''near miss'' to mean ''an unplanned, unforeseen, or unintended incident, situation, condition, or set of circumstances which does not directly or indirectly result in a regulated substance release. Examples of a near miss include, but are not limited to, process upsets such as excursions of process parameters beyond pre-established critical control limits; activation of layers of protection such as relief valves, interlocks, rupture discs, blowdown systems, halon systems, vapor release alarms, and fixed vapor spray systems; and activation of emergency shutdowns. A near miss also includes an incident at a nearby process or equipment outside of a regulated process if the incident had the potential to cause an unplanned, unforeseen, or unintended incident, situation, condition, or set of circumstances at the regulated process.'' [172] EPA solicits comments on a universal ''near miss'' definition, as well as comments on strengths and limitations of the definition provided by NJDEP and how the definition may clarify requirements for incident investigations. Based on these comments, in a future rulemaking, EPA may propose a definition of ''near miss.''

c. Third-Party Compliance Audits

Section IV.A.2.b of this preamble, ''root cause analysis,'' explains that incident investigations following an accident often reveal multiple causal factors related to prevention program elements. However, incident investigations generally evaluate only the affected process; they do not necessarily address all covered processes [173] at a facility or even all prevention program elements for the affected process. EPA expects that the proposed requirement to conduct a formal root cause analysis after an RMP-reportable accident will be helpful to ensure deficient prevention program areas are thoroughly investigated for the specific covered processes involved in the accident.

Compliance audits, in contrast, help to ensure a systematic evaluation of the full prevention program for all covered processes. EPA's RMP general guidance explains, ''A compliance audit is a way for you to evaluate and measure the effectiveness of your risk management program. An audit reviews each of the prevention program elements to ensure that they are up-to-date and are being implemented and will help you identify problem areas and take corrective actions.'' [174]

As discussed in the 2019 reconsideration rule, EPA recognizes that a relatively small number of RMP-regulated facilities have RMP-reportable accidents. However, EPA continues to be concerned with RMP facilities that—despite current RMP regulations, enforcement, and lessons learned from previous accidents—continue to have accidents and, in some cases, multiple accidents. EPA RMP accident history data show that while 97 percent of all RMP facilities had no RMP-reportable accidents from 2016–2020, 3 percent of all RMP facilities had at least one RMP-reportable accident and 0.5 percent of all RMP facilities had two or more RMP-reportable accidents. Facilities responsible for two or more accidents in those 5 years generally were within industry sectors where regulated facilities have multiple RMP-regulated processes. RMP facilities within the chemical manufacturing (NAICS 325) and petroleum and coal products manufacturing (NAICS 324) industries represent over 50 percent of the facilities with two or more accidents in 5 years, and they have on average two and eight RMP-regulated processes, respectively, at their facilities.[175] When RMP facilities have multiple accidents within a 5-year period, EPA is concerned that those facilities have not been able to identify measures on their own (through incident investigations, hazard evaluations, and compliance self-audits) to properly evaluate and apply appropriate prevention program measures to stop accidents from occurring.

EPA also has similar concerns for facilities with NAICS code 324 and 325 Program 3 processes that have had one RMP-reportable accident and are located within a 1-mile radius of another 324 and 325 regulated facility. EPA discusses the increased accident severity, frequency, and consequences for these facilities in the STAA section (IV.A.2.a) of this preamble. Between 2016 and 2020, 66 accidents occurred among facilities in NAICS codes 324 and 325 located within 1 mile of another 324 or 325 facility.[176]

Stationary sources that have had multiple accidents within a short period; substantial non-compliance with RMP requirements; and/or high accident

[171] CCPS, *Guidelines for Investigating Process Safety Incidents, 3rd Edition* (2019).

[172] EPA–HQ–OEM–2015–0725–0973.

[173] See 2019 RMP reconsideration rule discussion of ''representative sampling'' to satisfy compliance audit evaluation of multiple processes, 84 FR 69882–69883.

[174] EPA, *General Risk Management Program, Ch. 6: Prevention Programs* (2012), p. 6–24, *https://www.epa.gov/sites/default/files/2013-11/documents/chap-06-final.pdf.*

[175] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

[176] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

severity, frequency, and consequences pose a greater risk to surrounding communities. EPA therefore believes it is appropriate to require such stationary sources to undergo auditing by competent and independent third-party auditors.

i. Third-Party Compliance Audits in Previous RMP Rulemakings

EPA discussed third-party compliance audits at length in the 2016 proposed amendments. EPA discussed that self-auditing may be insufficient to prevent accidents, determine compliance with the RMP rule's prevention program requirements, and ensure safe operation. In the preamble to the 1996 RMP rule, EPA identified the potential to use independent third-party auditors for RMP compliance audits as an issue for further consideration. In the 2016 proposed amendments, EPA explained that poor compliance audits have been cited by EPA and CSB as a contributing factor to the severity of past chemical accidents and that in some cases, EPA has required third-party audits in enforcement settlement agreements.

The 2016 proposed amendments noted that other Federal programs require third-party audits in existing rules to ensure safe operations. The Administrative Conference of the United States' ''Third-Party Programs Final Report'' (October 22, 2012) describes a variety of third-party programs in Food and Drug Administration, Consumer Product Safety Commission, and Federal Communications Commission regulations.[177] The Bureau of Safety and Environmental Enforcement (BSEE) also promulgated revisions to their Safety and Environmental Management Systems (SEMS II) requirements (78 FR 20423, April 5, 2013) to help ensure the safe operations of offshore oil and natural gas drilling and production facilities.

The 2016 proposed amendments also discussed how industry recognizes the benefits of third-party auditing programs and has established programs and standards for third-party audits for some types of operations, many of which are also subject to the RMP rule. Some of these programs still in use are:

- National Association of Chemical Distributors (NACD)—Responsible Distribution.[178]
- ACC—Responsible Care program.[179]
- API—Process Safety Site Assessments.[180]
- Society of Chemical Manufacturers & Affiliates (SOCMA)—ChemStewards program.[181]

In the 2017 amendments rule, EPA added compliance audit provisions under 40 CFR 68.58 and 68.79 to require independent third-party compliance audits after an RMP-reportable accident or findings of significant non-compliance by an implementing agency for facilities with Program 2 and Program 3 processes. EPA explained that independent third-party auditing can assist owners and operators, EPA (or the implementing agency), and the public to better determine whether the procedures and practices developed by owners or operators for the prevention program requirements are adequate and being followed.

The 2019 reconsideration rule rescinded the third-party compliance audit requirements. EPA's decision to rescind the third-party audit requirements was to ''allow for coordination of process safety requirements with OSHA before proposing future regulatory changes, and to reduce unnecessary regulatory costs and burdens of a broad rule-based approach to third-party audits rather than a case-by-case approach (84 FR 69875)''; it was not based on a determination that third-party audits are not beneficial or justified in certain cases. In the 2019 reconsideration rule, EPA further indicated that ''while EPA cannot inspect every RMP facility every year, the Agency performs approximately 300 RMP facility inspections each year and prioritizes inspections at facilities that have had accidental releases. Therefore, EPA's enforcement resources and posture are capable of addressing accident-prone facilities without additional broad regulatory mandates. The Agency's choice to use a more surgical approach to accident prevention at these facilities is reasonable and practicable (84 FR 69853).''

In proposing to reestablish third-party compliance audits, EPA has determined that there are likely no legitimate reliance interests associated with the 2019 reconsideration rule's elimination of these requirements. Similar to the possible reliance interests regarding root cause analysis, the 2019 rule has only been in place for three years, and any compliance audit in the past, under way, or that otherwise would be required that predate the proposed rule will not have to be revised or changed in scope should EPA finalize the proposed change. Since the 2019 reconsideration rule, EPA has coordinated with OSHA to ensure that any proposed third-party compliance audit provisions do not contradict OSHA PSM requirements. The Agency continues to require third parties to conduct compliance audits for the settlement of some RMP civil enforcement cases. Facilities in those cases are often required to also comply with the OSHA PSM standard, and conflicts between the third-party audit provisions of settlement agreements and the compliance self-auditing requirements of the PSM standard have not arisen with OSHA.[182] [183] [184] The Agency now recognizes that there are some impracticalities of relying on EPA inspections, particularly in the wake of the COVID–19 pandemic and in consideration of the long time period over which some enforcement matters are settled. EPA realizes that a better approach is to be more proactive with respect to prevention and aim to prevent further accidents at facilities, particularly facilities that have proven to be accident-prone.

ii. Recent Public Input on Third-Party Compliance Audits

Commenters provided feedback on third-party audits during the two 2021 listening sessions and in written comments submitted in response to an associated request for comments.

Several commenters expressed general support for the third-party audit requirement of the 2017 amendments

[177] McCallister, Lesley. October 22, 2012. *Third-Party Programs Final Report* (2012). *https://www.acus.gov/report/third-party-programs-final-report.*

[178] National Association of Chemical Distributors, ''About Responsible Distribution,'' accessed February 15, 2022, *https://www.nacd.com/responsible-distribution/about-responsible-distribution/.*

[179] ACC, ''Responsible Care®: Driving Safety & Industry Performance,'' accessed February 15, 2022, *https://www.americanchemistry.com/chemistry-in-america/responsible-care-driving-safety-industry-performance?gclid=EAIaIQobChMIov_h7qbw9QIVj67ICh3g5guDEAAYASAAEgLHCfD_BwE.*

[180] API, ''Process Safety Site Assessments (PSSAP®),'' accessed February 15, 2022, *https://www.api.org/products-and-services/site-safety.*

[181] Society of Chemical Manufacturers & Affiliates (SOCMA), ''SOCMA'S ChemStewards® Program,'' accessed February 15, 2022, *https://www.socma.org/operations-manufacturing/chemstewards/.*

[182] United States of America v. Harcros Chemicals Inc, No. 2:17–cv–02432, Document 3–1 (January 31, 2017), *https://www.justice.gov/enrd/consent-decree/file/1280071/download.*

[183] United States of America and the State of Kansas, ex rel. Kansas Department of Health and Environment v. HollyFrontier El Dorado Refining LLC, No. 2:20–cv–02270, Document 1 (May 28, 2020), *https://www.justice.gov/opa/press-release/file/985591/download.*

[184] United States of America v. Formosa Plastics Corporation, Texas, No. 6:21–cv–00043, Document 2–1 (September 13, 2021), *https://www.justice.gov/opa/press-release/file/1432401/download.*

rule.[185] A labor organization expressed support for requiring third-party audits after an accidental release or discovery of significant non-compliance. The commenter stated that these audits are critical to protecting high-risk facilities and suggested that EPA ensure these audits are not used to merely satisfy a requirement. The commenter also suggested that EPA require auditors to be accredited by an auditing accreditation organization and prohibit auditors from developing relationships with facilities.[186] Another individual commenter supported including a requirement for third-party audits in the RMP rule and said that auditors should engage with employees and their representatives to become more familiar with the facilities; this commenter also suggested that auditors should include comments provided by employee representatives in the draft and final audit report.[187] Another commenter suggested that it is feasible to train engineers and chemists to be auditors so that they ensure industry standard practices are being followed, but noted that there should not be a ''revolving door'' between auditors and industry employees.[188]

Several commenters expressed opposition to the third-party audit requirement of the 2017 amendments rule. An industry trade association stated that the third-party audit requirement is not realistic, would not support better audits of RMP facilities, and would potentially ''degrade rather than improve safety.'' [189] This commenter and others expressed concern about the potential costs and availability of third-party auditors.[190] One commenter stated that the industry would be subject to third-party consultant pricing demands, as well as administrative and recordkeeping burdens. The commenter stressed that third-party auditors may be unacquainted with certain processes, industries, or businesses, and argued that the 3-year disqualifier for auditors who have conducted past research, development, or consulting with the owner or operator of a facility is unrealistic, overly restrictive, and especially difficult for facilities in more rural areas.[191]

Other commenters, including industry trade associations and an individual commenter, expressed concerns about the auditors' lack of industry and process knowledge.[192] An industry trade association said that the audit teams at facilities are highly trained and report directly to a chief executive officer. These teams visit different facilities under one company and transfer safety knowledge from one facility to another without concerns about disclosing confidential information. The commenter explained that the potential disclosure of confidential information would be a concern with independent third-party auditors who observe production processes at many facilities.[193] Another industry trade association expressed agreement, saying that independent auditors do not hold certain industry knowledge and cannot be trusted.[194] Another industry trade association said that because the audit mandate would not enhance chemical safety at facilities, it supported EPA's decision to rescind this provision in 2019. This commenter suggested that EPA use its own inspection powers to better enforce auditing practices at facilities, focusing on facilities responsible for the majority of the accidents.[195] Another industry trade association stated that requiring a third-party audit after a release would be redundant due to the current requirement to perform a root cause analysis.[196] The industry trade association further commented that requiring a compliance audit for each covered process every 3 years under Program 2 and Program 3 would impose substantial burdens and cause inefficiencies and operation disruptions.

iii. Proposed Third-Party Compliance Audit Requirements

2017 provisions. EPA is proposing to adopt the independent third-party compliance audit provisions as outlined in the 2017 amendments rule with modifications to account for EPA's recent review of the current RMP rule, which included data analyses and solicitation of comments. The proposed provisions for this action reflect that the most accident-prone facilities have not been able to properly evaluate and apply appropriate prevention program measures to regulated processes to stop accidents from occurring and that the availability of some qualified third-party auditors may be limited.

EPA is proposing to use the same definition of ''third-party audit'' as in 40 CFR 68.3 in the 2017 amendments rule. Regarding when a third-party audit must be performed, EPA is proposing to modify the first condition from the 2017 amendments rule (at 40 CFR 68.58 and 68.79) that requires a third-party audit after one accidental release meeting the criteria in 68.42, instead requiring it after two accidental releases within a 5-year period. Based on RMP-reportable accidents from 2016 to 2020, EPA estimates this will apply to an average of 70 facilities. Additionally, EPA is proposing to require all facilities with regulated NAICS code 324 and 325 Program 3 processes that have had one RMP-reportable accident and are located within a 1-mile radius of another facility with a regulated NAICS code 324 and 325 process to conduct a third-party audit after one accident. EPA discusses the increased accident severity, frequency, and consequences for these facilities in the STAA section (IV.A.2.a) of this preamble. Between 2016 and 2020, 66 accidents occurred among facilities in NAICS codes 324 and 325 located within 1 mile of another 324 or 325 facility.[197]

Regarding requirements for third-party auditors and third-party audits in new sections 68.59 and 68.80, EPA is proposing to restore the provisions from the 2017 amendments rule but remove the following auditor independence requirements contained in 40 CFR 68.59 and 68.80(c)(2)(iii) and (iv) to allow more flexibility in choosing auditors:

- Auditors cannot have conducted past research, development, design, construction services, or consulting for the owner or operator within the last 2 years.
- Auditors cannot provide other business or consulting services to the owner or operator, including advice or assistance to implement the findings or recommendations of an audit report, for a period of at least 2 years following submission of the final audit report.

As noted earlier in this section, several trade associations in the chemical manufacturing and petroleum refining industries have third-party auditing as part of their industry programs on process safety (NACD, ACC, API, SOCMA). For owners and operators with processes in NAICS codes 324 and 325, the Agency expects that there would be ample auditors experienced in the relevant industries and knowledgeable of the processes available for sources in these particular NAICS codes. The 2017 final RMP

[185] EPA–HQ–OLEM–2021–0312–0170; 0057, 0076.

[186] EPA–HQ–OLEM–2021–0312–0057.

[187] EPA–HQ–OLEM–2021–0312–0076.

[188] EPA–HQ–OLEM–2021–0312–0383–2.

[189] EPA–HQ–OLEM–2021–0312–0037.

[190] EPA–HQ–OLEM–2021–0312–0037; 0077.

[191] EPA–HQ–OLEM–2021–0312–0037.

[192] EPA–HQ–OLEM–2021–0312–0077; 0045, 0050, 0071.

[193] EPA–HQ–OLEM–2021–0312–0045.

[194] EPA–HQ–OLEM–2021–0312–0071.

[195] EPA–HQ–OLEM–2021–0312–0077.

[196] EPA–HQ–OLEM–2021–0312–0078.

[197] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

amendments approach to the independence criteria assumed that the RMP rule would establish a market for parties meeting the more stringent independence criteria, but the Agency's approach now is to be more flexible and take the market as it is and to better recognize within the rule structure the voluntary measures of industry. EPA solicits comment on this proposed independence criterion modified from the 2017 rule. EPA also seeks comment on whether the selected auditor should be mutually approved by the owner or operator and employees and their representatives, and if direct participation from employees and their representative should be required when the third party conducts the audit.

EPA contends that the remaining third-party compliance audit provisions, when restored, will help ensure that owners and operators of RMP facilities without strong prevention programs objectively and adequately explore all opportunities to prevent or minimize accidental releases of regulated substances to protect human health and the environment.

Third-Party-Issued Compliance Audit Findings Information Availability. As discussed in section IV.A.1.e of this preamble, ensuring that communities, local planners, local first responders, and the public have appropriate chemical facility hazard-related information is critical to the health and safety of responders and the local community. EPA is proposing ways to enhance information sharing and collaboration between chemical facility owners and operators, LEPCs/TEPCs, first responders, and the public in a manner that EPA believes balances security and proprietary considerations with the need for public and local responder information availability. In addition to the information availability provisions in section IV.C of this preamble, EPA is proposing to require facilities conducting third-party compliance audits for the proposed provisions under 40 CFR 68.58, 68.79, 68.59 and 68.80 to list in section 7 (Program 3) and section 8 (Program 2) of their risk management plans, for each process, findings resulting from the audit that the owner or operator chooses to decline. EPA realizes that the number of third-party-issued findings may vary widely, depending on the complexity of the process or facility. Therefore, as in section IV.A.1.e of this preamble, EPA seeks comments on the format of listing the findings—whether EPA should require findings to be included in narrative form, or whether the Agency should provide specific categories of findings for facilities to choose from when reporting. Another option would be to allow the owner or operator to post this information online and provide a link to the information within their risk management plan.

EPA is also proposing to adopt the same categories outlined in section IV.A.1.e of this preamble for owners and operators to justify declined third-party-issued compliance audit findings. EPA seeks public comment on this approach and on alternative categories or methods for providing justification for declining relevant findings. EPA wants to ensure a balanced approach to providing beneficial data to the public as well as a straightforward method of reporting for facility owners and operators.

d. Employee Participation

i. Introduction

Employees directly involved in operating and maintaining a process are most exposed to its hazards. These same employees are typically the most knowledgeable about the daily requirements for safely operating the process and maintaining process equipment; they may sometimes be the only source of process-specific knowledge—knowledge that has been gained through their unique experiences. Their direct participation and involvement in ensuring and enhancing the safety of process operations are often essential to protecting their own welfare.[198] [199] Such actions help keep communities safe as well. A long-standing premise of the RMP rule is that actions that promote worker safety as part of a well-designed process safety system generally help protect the public and the environment.[200]

Employee participation is a key element of a company's commitment to process safety. The CCPS's ''Guidelines for Risk Based Process Safety'' [201] outlines how to design and implement—or further correct and improve—effective PSM practices to prevent accidents based on process risks. It identifies essential characteristics of strong commitment to employee participation such as:

- Empowering individuals to successfully fulfill their safety responsibilities.
- Deferring to expertise.
- Ensuring open and effective communication.
- Fostering mutual trust.
- Providing timely responses to process safety issues and concerns.

Employee participation and a company's commitment to process safety can be critical to preventing accidents. CSB recently identified ineffective worker participation as a contributing factor to certain catastrophic accidents because workers and their representatives were not properly engaged in process operations to help identify and mitigate hazards and reduce risks. To highlight this issue, in September 2019, CSB published ''Safety Digest: The Importance of Worker Participation.'' [202] The digest discusses four catastrophic incidents that led to 13 employee deaths, 179 employee injuries, and, in one case, 15,000 residents living near the facility having to seek medical evaluation. The incidents took place at an explosives manufacturing site in Nevada, a chemical production facility in Louisiana, and oil refineries in Washington and California. The digest concludes that workers and their representatives play a critical role in hazard identification, risk reduction, and incident prevention. Each of these CSB investigations found that employee participation programs were inadequate, despite the existence of current Federal regulations and industry standards.[203] Recommendations from CSB to create an effective worker participation program include:

- Creating or improving opportunities for workers to participate directly in matters involving PSM and major incident prevention.
- Empowering workers to provide input on how work is performed, whether through safety-related committees, special projects, inspections and audits, hazard analyses, and/or other specific measures.
- Sharing safety information or communicating safety improvements as a part of strengthening a company's or

[198] CCPS, ''Introduction to Workforce Involvement,'' accessed February 3, 2022, *https://www.aiche.org/ccps/introduction-workforce-involvement.*

[199] CCPS, *Guidelines for Risk Based Process Safety* (March 2007), *https://www.aiche.org/resources/publications/books/guidelines-risk-based-process-safety,* p. 47.

[200] See EPA, *Accidental Release Prevention Requirements: Risk Management Programs Under Clean Air Act Section 112(r)(7),* 61 FR 31687 (June 20, 1996).

[201] CCPS, *Guidelines for Risk Based Process Safety* (March 2007), *https://www.aiche.org/resources/publications/books/guidelines-risk-based-process-safety.*

[202] CSB, *Safety Digest: The Importance of Worker Participation* (n.d.), *https://www.csb.gov/assets/1/6/worker_safety_digest.pdf.*

[203] The CSB Safety Digest identifies applicable regulations and industry standards including OSHA PSM, EPA RMP, Bureau of Safety and Environmental Enforcement's Safety and Environmental Management Systems rule, and the American National Standard-Occupational Safety and Health management Systems, ANSI/AIHA Z10.

facility's overall safety management system.

- Enabling workers to bring safety issues to the attention of management without fear of retaliation or reprisal.
- Collecting data to help ensure critical information is retained and used to continuously improve safety.
- Worker training opportunities and information sharing regarding the nature of hazards present in the workplace, lessons learned from other sites, the outcomes of incident investigations, and exposure to both established industry best practices and the results of safety-related research relevant to a company's or facility's operations.
- Strengthened worker participation requirements in industry standards and State and Federal regulations.

Although process industries are aware of the value of worker participation programs, opportunities exist to strengthen these programs and requirements for RMP-regulated facilities in a way that will protect human health and the environment. A 2017 study by Dupont Sustainable Solutions of 80 executives in high-hazard industries, such oil and gas, chemical and petrochemical, utilities, metals and mining, and manufacturing, found that employee participation to reduce catastrophic accidents that threaten their businesses could be improved. The study found that ''executives acknowledge there is an organizational disconnect and misalignment among leadership and employees with respect to risk management, which greatly contributes to the likelihood of a catastrophic event.'' One of the most notable discoveries of the study was that 88 percent of company executives felt workforce engagement was important to risk management, but only 35 percent believed it to be a strong part of their organization.[204]

Many commenters, including labor unions, advocacy groups, and individual commenters from the 2021 listening sessions, stated that EPA must strengthen the RMP rules to support and facilitate effective participation by workers and their representatives, arguing that worker participation is an essential component of incident prevention and safety management systems.[205] One advocacy group remarked that doing so would be essential to protecting public health and safety.[206] A labor union asserted that genuine worker involvement in RMP development, program enforcement, and corrective actions would translate to better communication and engagement with local communities and more effective response plans.[207] In discussing the need for updated regulations relating to worker participation, an individual commenter pointed out that the current RMP rule provides opportunities for employee participation, but these elements have not been updated since the regulations were first issued.[208]

The existing RMP rule already requires owners or operators of regulated facilities to include employees in RMP-regulated process operations. At 40 CFR 68.83, owners or operators with Program 3 processes are required to: (1) Develop a written plan of action regarding the implementation of employee participation requirements; (2) consult with employees and their representatives about the conduct and development of process hazards analyses and the development of the other elements of PSM; and (3) provide employees and their representatives with access to PHAs and all other information required to be developed under the rule.

In development of the initial 1996 RMP rule, the Agency recognized that many workplace hazards also threaten public receptors and that most accident prevention steps taken to protect workers also protect the public and the environment. Therefore, EPA adopted and built on much of the existing accident prevention language from OSHA's PSM standard, including the employee participation language in 29 CFR 1910.119(c). EPA considers these employee participation requirements to be a good basis for promoting a commitment to process safety because workers who are intimately familiar with the process, equipment operation, and possible failure modes and consequences of deviations serve as a mechanism for greater communication and understanding of specific process hazards (as opposed to general chemical hazards).[209]

Taking into account lessons learned from accidents, current guidance, and recent discussions within regulated industry sectors indicating there is room for improvement in this area, EPA believes that further worker involvement in process safety could help prevent and mitigate accidents. Therefore, EPA is proposing to add additional regulatory provisions to the employee participation requirements for owners and operators of regulated facilities with Program 2 and Program 3 processes. EPA is specifically proposing to require employers to consult with employees when making decisions on implementing recommendations from PHAs, compliance audits, and incident investigations; provide employees the opportunity to stop work under certain circumstances; and provide opportunities for employees to report late or unreported accidents and other areas of RMP non-compliance to EPA and other relevant authorities. EPA is proposing these provisions so that owners and operators without strong employee participation programs will have further measures in place to ensure process safety and to prevent or minimize accidental releases of hazardous substances. EPA does not expect these new provisions to be a burden to owners and operators that already have made this commitment.

ii. Recommendation Decisions

Although employees may be involved in the development of plans and procedures (through 40 CFR 68.83 or otherwise), they may not be guaranteed ''a seat at the table'' when final decisions are made about process operations they are directly involved in that could threaten their health and safety. EPA realizes that practicable recommendations from hazard evaluations, incident investigations, and compliance audits that may reduce hazards at RMP facilities are not always implemented, for various reasons. The Agency believes that involving directly affected employees in these discussions and decisions will help ensure that the most effective recommendations for reducing hazards and mitigating risks to employees and the public are given the proper consideration.

In 2019, CCPS published its ''Guide for Making Acute Risk Decisions (GMARD)'' [210] to complement its Risk Based Process Safety (RBPS) guidelines. The GMARD is a source for recognized

[204] DuPont Sustainable Solutions, ''Lack of Internal Alignment and Commitment of Resources to Manage Risk Threaten Corporate Business Performance,'' last modified 2017, *https://www.consultdss.com/global-operational-risk-management-survey-report/#:~:text=Lack%20of%20Internal%20Alignment%20and,Risk%20Threaten%20Corporate%20Business%20Performance&text=Instead%2C%20better%20understanding%20operational%20risks,new%20value%20from%20emerging%20opportunities.*

[205] EPA–HQ–OLEM–2021–0312–0079; 0170, 0151, 0058, 0032, 0057.

[206] EPA–HQ–OLEM–2021–0312–0094.

[207] EPA–HQ–OLEM–2021–0312–0044.

[208] EPA–HQ–OLEM–2021–0312–0076.

[209] EPA, *Accidental Release Prevention Requirements: Risk Management Programs Under Clean Air Act Section 112(r)(7),* (June 20, 1996), 61 FR 31697.

[210] CCPS, *Guide for Making Acute Risk Decisions* (October 2019), *https://www.aiche.org/ccps/resources/publications/books/guide-making-acute-risk-decisions.*

good industry practices on how to conduct risk decision-making in the chemical industry. This publication aims to guide the decision process of common and practical risk evaluation and risk analysis tools to analyze decisions. The guidance outlines specific considerations when making decisions in chemical process safety regarding implementation of hazard assessments, audits, and incident investigation recommendations. The GMARD indicates that selection of members to analyze decisions—like a PHA team—should be based on the skills needed to analyze the problem and define solutions and the level of responsibility required to authorize the decision team's recommendations. Stakeholders who may be affected by the risk decision should also be represented. These groups may include production and plant stakeholders such as those in engineering, operations, maintenance, safety, and health; and environmental managers. Ultimately, the team composition should be appropriate to the level of risk and the complexity of the potential resolution actions.

The American National Standards Institute (ANSI)/American Society of Safety Professionals (ASSP) Z10.0–2019 standard [211] offers additional guidance on health and safety management systems for different types of organizations and risks. It explains that organizations must establish a process to ensure effective worker participation by those most threatened by hazards. Worker involvement helps determine and validate acceptable levels of risks and provides transparency when alternate decisions are made. This standard reflects industry consensus and was in part developed by the ACC and API—both major stakeholders representing RMP-regulated facilities.

In 2017, the California Department of Industrial Relations (DIR) formalized including employees in all phases of PSM by making additions and modifications to its regulations on ''Process Safety Management for Petroleum Refineries.'' [212] Specifically, in the employee participation section of the rule, it added that employee participation shall occur ''throughout all phases'' and required involvement of affected operating and maintenance employees and employee representatives in developing, training, implementing, maintaining, and performing various process safety elements. DIR indicated that this modification would ensure meaningful participation and decision-making for employees and employee representatives from all program teams for all analyses required by their PSM regulations.[213]

Additionally, the United Kingdom has had regulations in place since 1996 that address consulting employees on matters that affect their health and safety. The Health and Safety (Consultation with Employees) Regulations of 1996,[214] specifically Regulation 4A, require employers to consult their health and safety representatives before making decisions involving work equipment, processes, or the organization that could have health and safety consequences for employees.[215]

One of the accident investigations from the CSB safety digest highlights the severe consequences of a lack of an effective employee participation program. On April 2, 2010, the Tesoro Refining and Marketing Company LLC (Tesoro) petroleum refinery in Anacortes, Washington, experienced a catastrophic rupture of a heat exchanger. Hydrocarbons released from the ruptured heat exchanger ignited, causing an explosion and an intense fire that burned for more than 3 hours. The rupture fatally injured seven Tesoro employees who were working in the immediate vicinity of the heat exchanger at the time of the incident. Prior to the incident, workers had repeatedly provided input on how to improve the safety of the process. During a 2006 PHA revalidation on the unit involved in the accident, workers noted 31 near misses in the unit during the previous 5 years. The PHA team requested a review of experience and training for relevant operators to address their safety concerns. [216] The action item was closed without resolution of the concerns expressed by the Tesoro workers on the PHA team. The Tesoro accident highlights what can happen when employees' views are not considered when making comprehensive decisions about process hazards and risks.

EPA analyzed OSHA PSM violations from 2018 to 2020 to better understand the breadth of unresolved or improper closure of recommendations from PHAs, compliance audits, and incident investigations.[217] In these 3 years, there were 70 violations of non-compliance where PHA, incident investigation, or compliance audit recommendations were not addressed, resolved, completed, documented, or communicated to employees. Of these violations, the majority (56 percent) were violations associated with PHA recommendations, 38 percent were from compliance audits, and 6 percent were from incident investigations. Some of these violations were associated with RMP-reportable accidents, which suggests that worker involvement may have been useful in making sure options were appropriately considered.[218]

During the 2021 listening sessions, some commenters recommended allowing workers to be involved in making decisions about process safety. One idea was for EPA to issue specific provisions that enable workers and their unions to participate in the prevention of chemical releases by requiring the facility owner and operator to provide for meaningful employee participation when developing, implementing, maintaining, and evaluating all RMP activities—including hazard assessments, the prevention program, and emergency response activities—and to keep current a written plan that describes such opportunities.[219] A commenter stated that effective worker participation includes having an employee representative with veto power. This representative—chosen by employees—would participate in all stages of developing and implementing a risk management program and have access to all documents or information pertaining to the facility's RMP.[220] [221] A

[211] ANSI and ASSP, *ANSI/ASSP Z10.0—2019 Occupational Health and Safety Management Systems* (2019), *https://store.assp.org/PersonifyEbusiness/Store/Product-Details/productId/197785872.*

[212] DIR, *Process Safety Management for Petroleum Refineries,* CCR Title 8: section 5189.1 (July 27, 2017), *https://www.dir.ca.gov/title8/5189_1.html.*

[213] DIR, *Final Statement of Reasons,* CCR Title 8: new section 5189.1 (September 15, 2016), *https://www.dir.ca.gov/oshsb/documents/Process-Safety-Management-for-Petroleum-Refineries-FSOR.pdf.*

[214] John Selwyn Gummer, *The Health and Safety (Consultation with Employees) Regulations 1996,* 1996 No. 1513 (June 10, 1996), *https://www.legislation.gov.uk/uksi/1996/1513/made.*

[215] Health and Safety Executive, *Consulting Workers on Health and Safety,* L146 (Second edition with amendments) (2014), *https://www.hse.gov.uk/pubns/priced/l146.pdf.*

[216] CSB, ''Tesoro Refinery Fatal Explosion and Fire,'' last modified May 1, 2014, *https://www.csb.gov/tesoro-refinery-fatal-explosion-and-fire/.*

[217] EPA did not use EPA RMP enforcement information because statistical data on enforcement under the 1996 RMP rule is not available at this level of detail.

[218] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

[219] EPA–HQ–OLEM–2021–0312–0079; 0149, 0058, 0148, 0076.

[220] EPA–HQ–OLEM–2021–0312–0079.

[221] Note that the current 1996 RMP rule requires the owner or the operator of a Program 3 process to ''provide to employees or their representatives

Continued

few commenters stated that increased worker participation would reduce the occurrence of catastrophic incidents at RMP facilities because workers are an excellent source of knowledge for reducing hazards in collaboration with plant engineers.[222]

As a result of this concern and need for employees to be involved in decision-making, EPA is proposing to require in 40 CFR 68.83(c) that the written plan of action include consultation of employees and their representatives on addressing, correcting, resolving, documenting, and implementing recommendations of PHAs, incident investigations, and compliance audits, at a minimum. EPA expects this would be similar to involving employees in the hazard evaluations under 40 CFR 68.83(b) but would go a step further to offer suggestions and concerns about why a recommendation should be adopted or declined or whether other alternatives should be taken. EPA expects this would address safety concerns that threaten the lives of workers and potentially others if a major chemical accident were to occur, as well as involving workers in ensuring items are completed in a timely manner. EPA seeks comment on whether there should be a representative number or percentage of employees and their representatives involved in these recommendations decision teams as well as the development of other process safety elements as outlined in 40 CFR 68.83(b). EPA also expects regulated facilities to use some of the guidance materials referenced in this section (*e.g.,* CCPS' RBPS and GMARD guidelines and ANSI/ASSP Z.10) to comply with the requirement to effectively involve employees in decision-making processes. EPA seeks comment on other relevant sources that have provided useful guidance in making risk decisions.

iii. Stop Work Authority

Allowing process operation employees to stop work when witnessing a dangerous activity could help better protect human health and the environment.

In the 2014 RMP RFI, EPA requested comments on whether it should add provisions to the RMP rule giving workers the ability to stop work if they believe a situation is dangerous—an authority similar to the one that BSEE had recently provided for workers in the offshore oil industry. BSEE promulgated revisions to their SEMS II requirements to help ensure the safe operation of their regulated facilities.[223] The revisions included several management system elements not addressed in the RMP regulation. In its SEMS II fact sheet, BSEE describes the stop work authority as an authority that creates procedures and authorizes offshore industry personnel who witness an imminent risk or dangerous activity to stop work.[224] While the requirements of SEMS II focus on offshore facilities under the jurisdiction of BSEE, the same concept could be applied to facilities subject to RMP regulation. EPA chose not to pursue proposing stop work regulations in the 2017 amendments rule, but it is revisiting this idea to address an area that may help reduce accidents, particularly for those facilities that have not fully developed a strong prevention program.

Various commenters from the 2014 RFI, including a consultant, the Mary Kay O'Connor Process Safety Center, and CCPS, supported adding this provision.[225] The Mary Kay O'Connor Process Safety Center suggested adding a stop work authority to the RMP employee participation provision (40 CFR 68.83). While CSB supported EPA's consideration of a stop work authority, it asserted that a stop work authority is a less effective measure for incident prevention than good planning and noted that its success is contingent upon the existence of a ''culture of safety'' wherein workers are encouraged and empowered to advocate for their safety on the job. CSB argued that any program that does not appropriately enable stop work authority permits risks to occur and accumulate.[226]

Industry commenters generally opposed adding this authority to the RMP rule.[227] API and other associations noted that employees already have the right to refuse work in light of a hazardous condition that could cause serious bodily injury or death.[228] API stated that stop work authority is an inherent part of the oil and gas industry and pointed to training programs and API standards that outline this authority.[229] API indicated that their standards inform employees that:

- Safety is and will always be the industry's primary focus.
- As part of the oil and gas industry, workers have a duty to work in a safe manner.
- Workers have a personal responsibility to assure the safety of themselves and those around them.
- Safety and safe practices should always be at the forefront when carrying out job functions.
- All workers have stop work authority.
- Workers should stop and ask questions when in doubt about the safety of any operations.
- Workers should stop work at the jobsite if the working conditions or behaviors are considered unsafe.
- If a worker is discouraged from exercising their stop work authority or is penalized for doing so, they should report this action to management immediately.

After the 2012 Chevron Refinery fire in Richmond, California,[230] CSB recommended that the California State Legislature/Governor of California, in its PSM regulations, should provide workers and their representatives with the authority to stop work that is perceived to be unsafe until the employer resolves the matter or the regulator intervenes. As a result, in DIR's modifications to their Process Safety Management for Petroleum Refineries rule,[231] they included stop work procedures. In the employee participation section, the rule indicates that the employer, in consultation with employees, must develop and implement stop work procedures that ensure there is authority for employees to refuse to perform a task or recommend an operation or process be partially or completely shut down. It also provides authority for a qualified operator in charge of a unit to partially or completely shut down an operation or process based on process safety hazards.[232] In addition, the regulation

access to [PHAs] and to all other information required to be developed under this rule''—that is, the current 1996 RMP rule (40 CFR 68.83(c)).

[222] EPA–HQ–OLEM–2021–0312–0032.

[223] Bureau of Safety and Environmental Enforcement (BSEE), *Oil and Gas and Sulphur Operations in the Outer Continental Shelf-Revisions to Safety and Environmental Management Systems,* 78 FR 20423–20443 (April 5, 2013).

[224] BSEE, *Safety and Environmental Management Systems (SEMS) Fact Sheet* (n.d.), *https://www.bsee.gov/fact-sheet/safety/sems-ii-fact-sheet.*

[225] EPA–HQ–OEM–2014–0328–0121; 0543, 0546.

[226] EPA–HQ–OEM–2014–0328–0689.

[227] EPA–HQ–OEM–2014–0328–0560; 0605, 0619, 0624, 0643, 0645, 0665, 0676.

[228] EPA–HQ–OEM–2014–0328–0624; 0626, 0640, 0643, 0665.

[229] API, ''Stop Work Authority,'' accessed February 3, 2022, *https://www.api.org/oil-and-natural-gas/health-and-safety/worker-and-worksite-safety-resources/worker-safety-rules-to-live-by/stop-work-authority.*

[230] CSB, ''Chevron Refinery Fire,'' last modified January 28, 2015, *https://www.csb.gov/chevron-refinery-fire/.*

[231] DIR, *Process Safety Management for Petroleum Refineries,* CCR Title 8: section 5189.1 (September 26, 2017), *https://www.dir.ca.gov/title8/5189_1.html.*

[232] DIR, *Process Safety Management of Acutely Hazardous Materials,* CCR Title 8: section 5189, *https://www.dir.ca.gov/title8/5189.html#:~:text=%C2%A75189.,Management%20of%20Acutely%20Hazardous%20Materials.&text=The%20establishment%20of%20process%20safety,(b)%20Application.*

requires that employers document and respond in writing to employee reports of hazards or requests to shut down a process. CSB also made a similar recommendation to the State of Washington to address related issues after the fatal explosion and fire at Tesoro Refinery.[233] The State of Washington is currently considering changes to its PSM rule for refineries.[234]

Recent articles and studies have attempted to examine stop work authority, how it is applied, and the perception of its usefulness. A 2018 article in *Safety+Health* magazine indicated that while specific stop work authorities are not mandatory, safety professionals insist on their use. According to the article, key elements of a successful stop work authority policy include employee recognition, empowering employees in the stop work authority process, ensuring leadership supports the program, identifying expectations, promoting positive outcomes and correct application, and publishing effective stop work authority efforts as examples for employees.[235]

In a 2018 study, Weber et al. examined the factors that support or hinder stopping work for safety.[236] Thirty-four workers from different roles in the LPG industry in Australia were interviewed in focus groups. The study found that having a stop work policy supports stopping work for safety and that support from management positively affects its use. It also found that the training, experience, and seniority of employees were factors in employees choosing whether to use the stop work authority. The study concluded that a stop work authority is a starting point. To encourage, promote, and alleviate drawbacks to stopping work, a stop work authority has to be embedded in and supported by a work environment that provides the necessary conditions for people to discontinue work. The authors believe this can only be achieved when company leadership collaborates with its workforce to identify hazards and help resolve the challenges of everyday work.

In a 2021 study, Havinga et al. continued the conversation about factors that influence stopping work.[237] Taking an ethnographic approach, the researchers followed 10 employees of a municipal water provider over 3 months. The aim of the study was to understand how decisions to stop work were made and when work was expected to be stopped based on procedures. The study concluded that these employees did not generally find stop work decisions to be important or difficult, as they often found an alternative method for completing work, rather than stopping work completely. Procedures were linked to considerations of stopping work, but they were unlikely to lead to a decision to stop work. These findings challenge the idea that stop work decisions are best supported through procedures, training, and policies, as these interventions suggest that workers consider stop work decisions difficult and significant. An alternative strategy to encourage workers to stop work in dangerous situations would be for organizations to provide alternative methods for workers to complete a job.

EPA recognizes, and other industry commenters in the past have concluded,[238] that the current RMP rule, although not containing explicit requirements for stop work, already addresses many aspects of a stop work authority that provides means to identify and resolve imminent operational risks before they occur. For example, operating procedures developed under the RMP rule (40 CFR 68.69) address how and under what circumstances a facility should conduct normal and temporary operations, emergency shutdown (including the assignment of a responsible qualified operator to do so), emergency operations, and normal shutdown. Operating procedures should also address when process operations deviate from operating limits, steps to correct and avoid deviation, safety and health conditions to consider, and safety systems and their functions. Mechanical integrity requirements (40 CFR 68.73(e)) ensure equipment deficiencies that are outside acceptable limits are corrected in a safe and timely manner or before further use to assure safe operation. The associated trainings for operating procedures (40 CFR 68.71) and maintenance (40 CFR 68.73(c)) are key to ensuring that those processes are well understood. EPA believes all these components create a stop work authority as they address the circumstances and procedures to identify unsafe operations. Furthermore, EPA believes each facility's individual operating procedures and approach to correcting equipment deficiencies give owners and operators the flexibility to design a stop work authority for their process operations that remains adaptable to the procedures already in place.

With the current provisions in the RMP rule, EPA believes many facilities with RMP processes already have the appropriate measures to identify, reduce, and mitigate the threat of an accidental release before it happens. The fact that only a small number of facilities have RMP accidents further supports this. However, RMP accidents do still occur. According to the Agency's RMP accident data, among the most commonly instituted changes after RMP-reportable accidents were improved or upgraded equipment, revised training, and revised operating procedures.[239] Rather than make significant changes to these specific prevention program areas, EPA believes a better approach would be to ensure facilities' employees are aware of authorities to manage unsafe work, one of the last lines of defense to protect human health and the environment from a catastrophic release.

Therefore, EPA is proposing to require at 40 CFR 68.83(d) that the written plan of action regarding the implementation of the employee participation for Program 3 processes include and ensure effective methods are in place so that employees and their representatives have authority to:

- Refuse to perform a task when doing so could reasonably result in a catastrophic release.
- Recommend to the operator in charge of a unit that an operation or process be partially or completely shut down, in accordance with procedures established in 40 CFR 68.69(a), based on the potential for a catastrophic release.
- Allow a qualified operator in charge of a unit to partially or completely shut down an operation or process, in accordance with procedures established in 40 CFR 68.69(a), based on the potential for a catastrophic release.

[233] CSB, ''Tesoro Refinery Fatal Explosion and Fire,'' last modified May 1, 2014, *https://www.csb.gov/tesoro-refinery-fatal-explosion-and-fire/.*

[234] Washington State Department of Labor & Industries, ''Semi-Annual Rules Development Agenda: January 1, 2022–June 30, 2022'' (January 31, 2022), *https://lni.wa.gov/dA/ad667425ad/Rules Agenda.pdf.*

[235] Bush, J., ''Stop-Work Authority,'' last modified July 26, 2018, *https://www.safetyandhealthmagazine.com/articles/17242-stop-work-authority#:~:text=Stop%2Dwork%20authority%20permits%20any,Health%20insist%20on%20its%20use.*

[236] David E. Weber et al., ''We Can Stop Work, but then Nothing Gets Done.' Factors that Support and Hinder a Workforce to Discontinue Work for Safety,'' *Safety Science* 108 (2018): 149–160, doi: 10.1016/j.ssci.2018.04.032.

[237] Jop Havinga, Kym Bancroft, and Andrew Rae, ''Deciding to Stop Work or Deciding How Work Is Done?'' *Safety Science* 141 (2021): 105334, doi: 10.1016/j.ssci.2021.105334.

[238] EPA–HQ–OEM–2014–0328–0605.

[239] EPA Office of Land and Emergency Management, *Risk Management Plan RMP*eSubmit User's Manual* (August 2019), *https://www.epa.gov/sites/default/files/2019-03/documents/rmpesubmit_user_guide_-_march_2019_final_0.pdf.*

Additionally, EPA is proposing to require that stop work authority processes within employee participation plans outline how employers should document and respond, in writing and within 30 days, to employee reports of hazards or employee recommendations to shut down or partially shut down a process.

iv. Accident and Non-Compliance Reporting

Accident history reporting provides an avenue for disseminating valuable information about potential hazards and steps needed to prevent future accidents. Accident information submitted within a risk management plan, as required by the 5-year accident history provisions, includes information that could help states and EPA learn which types of sources are having problems, understand more about accident causes, track trends in chemical accidents and prevention activities, monitor the progress of risk management programs, focus future prevention activities, and avoid overregulation of industry sectors or substances. These important activities depend on accurate and timely information provided by accident reports.

Current accident reporting provisions in the RMP rule (40 CFR 68.42(a)) require that 5-year accident histories include all accidental releases from covered processes that resulted in deaths, injuries, and significant property damage onsite, and known offsite deaths, injuries, evacuations, sheltering in place, property damage, and environmental damage.

When the RMP rule was first promulgated, it required that when a risk management plan was updated per 40 CFR 68.190, it had to contain an updated 5-year accident history, including all the accidents that met the 40 CFR 68.42 reporting criteria and those that occurred within 5 years of the date on which the updated risk management plan was submitted. On April 9, 2004, EPA published a final rule that amended the accident history reporting requirement and certain other provisions of the Risk Management Program.[240] From that date, if an accident occurs that meets the reporting criteria, it must be reported in the RMP 5-year accident history within 6 months of the accident (as required by 40 CFR 68.195) unless it is included in a risk management plan update prior to that time. EPA took this action so that government, industry, and the public would be more quickly alerted to the possibility of similar accidents occurring elsewhere.[241]

Commenters from the 2021 listening sessions drew attention to the issue of RMP-reportable accidents that have not been reported or have been reported late. One commentor specifically provided a data analysis showing the lag in reporting.[242] In recognition of these comments, EPA further examined RMP accident history reporting from 2004 to 2020, analyzing accidents where either the risk management plan correction date or the full risk management plan submission date was more than 6 months from the date of the accident. This analysis found 163 RMP accidents reported late out of a total of 2,436 total accidents reported over this period (*i.e.,* a 6.7 percent late accident reporting rate). One commentor indicated that there seems to be little or no consequence for failures and delays in accident reporting. This may prevent EPA from performing relevant inspections and requiring corrective action to prevent serious harm.[243]

Other commenters from the 2021 listening sessions, including advocacy groups and individual commenters, recommended specific changes to the RMP rule addressing worker involvement in reporting areas of RMP non-compliance. For example, an individual commenter stated that EPA must strengthen worker participation, encourage workers to take action to protect safety and avoid incidents, ensure fast compliance deadlines for all requirements, and require more reporting to EPA on compliance. Some commenters, including advocacy groups and an individual commenter, emphasized that an updated RMP rule must address near-miss reporting by workers at RMP facilities.[244] A few of these commenters added that near-miss reporting must be anonymous.[245] One of these advocacy groups and an individual commenter suggested that EPA provide a hotline that allows workers, contractors, and anyone else with relevant information to report anonymous near-miss and safety information directly to the Agency, remarking that this would be a valuable service that would help ensure that EPA gets important information quickly.[246]

EPA is also concerned about other areas of RMP non-compliance, as compliance with the regulations helps facilities operate and maintain a safe facility and consistently implement recognized good engineering practices that prevent accidents from occurring. EPA inspections have revealed significant non-compliance and an ongoing need for additional compliance assistance to decrease the likelihood of chemical accidents and reduce the risk to human health and the environment. Over the last 5 fiscal years (October 2017 to September 2021), RMP and General Duty Clause (GDC) inspections resulted in a 71 percent rate of action taken by facilities to address issues of non-compliance with the RMP rule and GDC.[247] [248]

Further, EPA recognizes the right workers have to participate in implementing agency inspections. On February 11, 2011, EPA issued a memo that outlined EPA's policy on involvement of facility employees and employee representatives in onsite compliance inspections as provided by CAA section 112(r)(6)(L). [249] This section states that when EPA or another authorized agency conducts an inspection of a facility, employees and their representatives shall have the same rights to participate in the inspection, as provided in the Occupational Safety and Health Act [29 U.S.C. 651 *et seq.*] [250] CSB also recently highlighted this authority of employees in a board addendum on October 24, 2018.[251] The policy sets out to ensure opportunities for the participation of workers in the agency's investigative process.

[240] EPA, Accidental Release Prevention Requirements: Risk Management Program Requirements Under Clean Air Act Section 112(r)(7); Amendments to the Submission Schedule and Data Requirements, 40 CFR part 68 (69 FR 18819; April 9, 2004), *https://www.govinfo.gov/content/pkg/FR-2004-04-09/pdf/04-7777.pdf.*

[241] EPA Office of Solid Waste and Emergency Response, ''Chapter 3: Five-Year Accident History,'' *General Guidance on Risk Management Programs for Chemical Accident Prevention* (March 2009), *https://www.epa.gov/sites/default/files/2013-10/documents/chap-03-final.pdf.*

[242] EPA–HQ–OLEM–2021–0312–0058.

[243] EPA–HQ–OLEM–2021–0312–0149.

[244] EPA–HQ–OLEM–2021–0312–0035; 0032, 0020, 0170.

[245] EPA–HQ–OLEM–2021–0312–0035; 0035, 0170, 0032.

[246] EPA–HQ–OLEM–2021–0312–0076.

[247] EPA, ''General Duty Clause Under the Clean Air Act Section 112(r)(1),'' last modified December 21, 2021, *https://www.epa.gov/rmp/general-duty-clause-under-clean-air-act-section-112r1.*

[248] EPA, ''National Compliance Initiative: Reducing Accidental Releases at Industrial and Chemical Facilities,'' last modified May 18, 2021, *https://www.epa.gov/enforcement/national-compliance-initiative-reducing-accidental-releases-industrial-and-chemical.*

[249] EPA, Involvement of Employees and Employee Representatives in Clean Air Act (CAA) Section 112(r) On-Site Compliance Inspections—Final Guidance (February 11, 2021), *https://www.epa.gov/sites/default/files/2013-10/documents/clean_air_memo.pdf.*

[250] OSHA, *Representatives of Employers and Employees,* 1903.8 (n.d.), *https://www.osha.gov/laws-regs/regulations/standardnumber/1903/1903.8.*

[251] CSB, *Worker Participation in Investigations—Board Order Addendum 40a* (October 24, 2018), *https://www.csb.gov/assets/record/bo40a.pdf.*

After considering the issues of late reporting of accidents, non-reporting of other compliance issues, and the role workers could plan in promoting compliance, EPA is proposing to require that facilities with Program 3 processes include in their employee participation plans explicit language addressing worker participation and reporting, along with information for how to report RMP-reportable accidents or related RMP non-compliance issues. Specifically, EPA is proposing to add additional language at 40 CFR 68.83 to indicate that written plans should include information for anonymously reporting unaddressed hazards that could lead to a catastrophic release, unreported RMP-reportable accidents, or any other issue of non-compliance with 40 CFR part 68. EPA is also proposing to add an additional section under subpart C for owners and operators of Program 2 processes to implement an employee participation plan that addresses these issues. Although facilities with Program 2 processes account for only approximately 15 percent (n = 357 out of 2,436) of all RMP-reportable accidents (83 percent (n = 2,011 out of 2,436) are Program 3; 3 percent (n = 68 out of 2,436) are Program 1)), their accidents still have the potential to affect public receptors.[252] In 2017, for example, a chlorine release from a Program 2 process in Texas caused 20 people to require medical treatment and 125 people to evacuate.[253] In 2018, a facility with a Program 2 process in Iowa had an ammonia release that caused 500 members of the public to evacuate and 45 people to shelter in place.[254]

EPA expects facilities to use available resources for their specific process operations and other appropriate RMP rule guidance to include the new anonymous reporting provisions in employee participation plans. EPA resources to help owners and operators understand what is required and how to enforce provisions include:

- EPA's Report Environmental Violations—an online portal for reporting possible violations of environmental laws and regulations.[255]
- Guidance for Facilities on Risk Management Programs—an online resource hub for helping the regulated community understand the RMP rule.[256]
- Region 7 Risk Management Program Webinars—webinar slides that discuss the requirements of CAA 112(r)(7), common compliance pitfalls, preparing for inspections, and case studies. [257]
- ''Guidance for Conducting Risk Management Program Inspections under Clean Air Act Section 112(r)''—guidance for implementing agencies explaining how to conduct inspections of facilities subject to RMP.[258]
- ''Final Combined Enforcement Policy for Clean Air Action Sections 112(r)(1), 112(r)(7) and 40 CFR part 68, 2012''—guidance for determining the appropriate enforcement response and penalty amount for violations in failing to comply with RMP and GDC.[259]
- EPA chemical accident prevention publications—publications that address the specific need for safety and chemical emergency and preparedness measures based on enforcement and lessons learned from accidents.[260]

EPA recognizes that workers may often overlook hazards or areas that they know are non-compliant with standards for fear that it will affect their employment. This may particularly be the case for the stop work and accident reporting provisions. The Agency reminds owners and operators that OSHA enforces whistleblower protections provided under the CAA, the Occupational Safety and Health Act, and other Federal laws. Further information about those rights can be found at *https://www.whistleblowers.gov.*

In addition to employee participation, CCPS' RBPS guidance identifies compliance with standards as a key element in committing to process safety. It indicates that this element helps identify, develop, acquire, evaluate, disseminate, and provide access to applicable standards, codes, regulations, and laws that affect a facility and the process safety requirements applicable to a facility.[261] As with the other new provisions proposed in this employee participation section, EPA is proposing these RMP accident and non-compliance employee participation provisions because it wants to ensure that owners and operators who have not fully developed strong employee participation programs have further measures in place to ensure their commitment to process safety in order to prevent and minimize accidental releases of hazardous substances. EPA seeks comment on these proposed RMP accident and non-compliance employee participation provisions. EPA also seeks comments on whether owners and operators should distribute an annual written or electronic notice to employees that employee participation plans and other RMP information is readily accessible upon request and provide training for those plans and how to access the information.

B. Emergency Response

1. Review of Emergency Response Notification, Detection, and Response

Subpart E of the RMP rule, the emergency response provisions, applies to facilities with Program 2 or 3 processes. These provisions require owners or operators of regulated facilities with Program 2 or 3 processes to coordinate with local response authorities and, in some cases, develop an emergency response program in accordance with 40 CFR 68.95 to address how the owner or operator of the facility will respond to accidental releases. The rule requires the owner or operator to prepare and implement an emergency response program to protect public health and the environment, unless the stationary source is a ''non-responding'' facility included in the community emergency response plan developed under section 303 of the Emergency Planning and Community Right-to-Know Act (EPCRA) (for sources with regulated toxic substances) and has coordinated response actions with the local fire department (for sources with only regulated flammable substances).

[252] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

[253] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

[254] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

[255] EPA, ''Report Environmental Violations,'' last modified January 26, 2022, *https://echo.epa.gov/report-environmental-violations.*

[256] EPA, ''Guidance for Facilities on Risk Management Programs (RMP),'' last modified December 20, 2021, *https://www.epa.gov/rmp/guidance-facilities-risk-management-programs-rmp.*

[257] EPA, ''Region 7 Risk Management Program Webinars,'' last modified February 24, 2021, *https://www.epa.gov/rmp/region-7-risk-management-program-webinars.*

[258] EPA Office of Solid Waste and Emergency Response and EPA Office of Enforcement and Compliance Assurance, *Guidance for Conducting Risk Management Program Inspections under Clean Air Act Section 112(r)* (January 2011), *https://www.epa.gov/sites/default/files/2013-10/documents/clean_air_guidance.pdf.*

[259] EPA, Transmittal of the Final Combined Enforcement Policy for Clean Air Act Sections 112(2)(1), 112(r)(7) and 40 C.F. R. Part 68 (June 20, 2012), *https://www.epa.gov/sites/default/files/documents/112rcep062012.pdf.*

[260] EPA, ''Chemical Accident Prevention Publications,'' last modified November 16, 2021, *https://www.epa.gov/rmp/chemical-accident-prevention-publications#advisories.*

[261] CCPS, Guidelines for Risk Based Process Safety (March 2007), *https://www.aiche.org/resources/publications/books/guidelines-risk-based-process-safety.*

An owner or operator who needs to develop an emergency response program (*i.e.,* be a ''responding'' facility) will need to include the following elements in that program:

- An emergency response plan that includes procedures for informing the public and the appropriate Federal, State, and local emergency response agencies about accidental releases; documentation of proper first aid and emergency medical treatment necessary to treat accidental human exposures; and procedures and measures for emergency response after an accidental release of a regulated substance.
- Procedures for the use of emergency response equipment and for its inspection, testing, and maintenance.
- Training for employees.
- Procedures to review and update the emergency response plan to reflect changes at the stationary source and ensure that employees are informed of changes.

The owner or operator must also coordinate with local response authorities on the emergency response plan.

Facility owners or operators who rely on local responders to respond to an accidental release (*i.e.,* a ''non-responding'' facility) when the stationary source has been included in the community emergency response plan developed under section 303 of EPCRA (for sources with regulated toxic substances) or who have coordinated response actions with the local fire department (for sources with only regulated flammable substances and without regulated toxic substances) are not required to develop an emergency response program. However, owners or operators must also ensure that appropriate notification mechanisms are in place to notify emergency responders when there is a need for a response and must perform annual emergency response coordination and notification activities.

An RMP-regulated facility must indicate in its risk management plan whether it is a non-responding facility (*i.e.,* by indicating compliance with mandatory elements of emergency response plans required in 40 CFR 68.95(a)(1)) and identify the plans and procedures in place should an accidental release occur. EPA's review of the RMP database has shown that approximately 47 percent of RMP facilities claim to be non-responding facilities. However, during facility inspections, EPA has often found that facilities either are not included in the community emergency plan or have not properly coordinated response actions with local authorities. State and local response officials echoed this concern during the 2013 to 2014 listening sessions conducted under E.O. 13650, in responses to the 2014 RMP RFI,[262] and again in the 2021 listening sessions.[263]

New emergency response requirements added in the 2017 amendments rule and the 2019 reconsideration rule offer opportunities to address some of these concerns, such as coordination meetings with local responders and notification, tabletop, and field exercises.[264] In particular, EPA believes the annual coordination meeting and notification exercises will provide a wide range of useful outcomes, including information sharing and evaluation of the effectiveness of notification, evacuation, and sheltering systems and procedures. The annual coordination requirement is expected to help make continual improvements to emergency response systems and procedures, as appropriate.

Nevertheless, in reviewing opportunities to continually improve the effectiveness of emergency responses for RMP accidents, EPA reviewed additional data points from the RMP database and carefully considered comments from the 2021 listening sessions. After reviewing the data, EPA believes that more can be done to improve emergency responses, particularly in the field of timely notification of releases to the public and detection of those releases. The following three sections provide an overview of the RMP regulations and includes background information on accidental release notifications to both the surrounding community and local emergency response agencies. These sections serve to support EPA's proposed amendments to the emergency response requirements.

a. Concerns About Notification of Accidents

Communities surrounding RMP facilities need information to appropriately prepare for and respond to potential emergencies related to the facilities. Yet commentors from the 2021 listening sessions pointed out that they were first notified of chemical releases impacting their homes and families hours after the release via television news or social media; this delay in notification has created fear among the public.[265]

During the 2021 listening sessions, the National Association of SARA (Superfund Amendments and Reauthorization Act) Title III Program Officials (NASTTPO) provided comments containing recommendations to remedy this, urging EPA to require facilities to provide community notification for releases that have the potential to cross a facility's fenceline. NASTTPO argued that communities must receive more timely notification of chemical releases and accidents if they are to act in the ways LEPCs, emergency planners, and responders emphasize through public outreach and education. While only local response authorities can officially call for evacuations or shelter-in-place responses, the fundamental obligation to inform the public about whether a release has occurred—and about the magnitude of the release—falls upon the facility owner or operator, as they will have the best information available. NASTTPO also stated that education and awareness programs by LEPCs and others on protective actions for chemical release events cannot be successful unless the people who are expected to act receive timely and adequate warning information; the facility owner or operator must be the source of this information.[266]

While EPA acknowledges that the accident rate from RMP facilities has declined, EPA also recognizes that approximately 39 percent (n = 962) of reported accidents from 2004 to 2020 had offsite impacts. Further analysis shows that no offsite responders were notified in 192 of the 962 accidents with offsite impacts (19 percent). Furthermore, approximately 19 percent (n = 36) of the facilities with the 192 accidents self-identified as non-responders and relied on local responders to handle the release and public communication efforts. To be clear, that means that in these 36 incidents, there was no notification by the facilities to the entities they had designated would respond to incidents per the submitted risk management plans. Moreover, only 10 of these 192 accident investigations indicated that there was a revised emergency response plan because of the accident. These data points suggest that there is still a disconnect between the roles of regulated facilities and local responders, particularly when there are offsite impacts or the threat of such impacts.[267]

[262] EPA–HQ–OEM–2014–0328–0679; 0641.

[263] EPA–HQ–OLEM–2021–0312–0072.

[264] EPA, Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, 84 FR 69893–69906 (December 19, 2019).

[265] EPA–HQ–OLEM–2021–0312–0072; 0020.

[266] EPA–HQ–OLEM–2021–0312–0072.

[267] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

Responding facilities also had problems notifying the public of releases, even though they are required to develop procedures for informing the public and the appropriate Federal, State, and local emergency response agencies. Eighty-one percent (n = 156) of responding facilities still did not notify local responders when there were offsite impacts.[268] Per 40 CFR 68.95(c), responding facilities are required to promptly provide local emergency response officials with information necessary for developing and implementing the community emergency response plan.[269]

When local responders are not notified, they cannot implement the community response plan that communities rely on for their safety. For example, on June 10, 2014, in St. David, Cochise County, Arizona, Apache Nitrogen Products Inc. (ANPI) released 52,000 pounds of anhydrous ammonia from a rail car when a sight glass in the ammonia piping broke. The community alarm process identified in the facility's emergency response program required the deployment of an employee to drive to the facility's fenceline and use a handheld ammonia monitor to determine if the alarm should be activated. However, the facility did not carry out the employee deployment and fenceline ammonia monitoring needed for action, so appropriate notification did not occur. This facility's emergency response program exemplifies that current compliance to the RMP rule's existing public notification provision can be ineffective and that notifications can improve. In a subsequent enforcement action, in addition to requiring upgraded ammonia detection devices, EPA had the facility owner develop response procedures and training. The procedures require relevant ANPI employees and contractors to request that Cochise County send an alert to mobile phones in areas where a release of anhydrous ammonia may reach public receptors. This community notification system must also provide appropriate instructions to the public, such as shelter-in-place or evacuation warnings.[270]

CSB also highlighted these emergency response concerns in a 2018 safety digest: ''Emergency Planning and Response—The Importance of Preparation, Training and Communication.'' [271] The digest gives examples from four major catastrophic accidents: the Bayer Crop Science pesticide waste tank explosion in Institute, West Virginia in 2008; [272] the West Fertilizer explosion and fire in West, Texas, in 2013; [273] the MGPI Processing, Inc., toxic chemical release in Atchison, Kansas, in 2016; [274] and the Arkema Inc. chemical plant fire in Crosby, Texas, in 2017.[275] These examples highlight the importance of an effective emergency response to prevent injuries and fatalities from chemical accidents. The digest further highlights lessons learned from at least 16 CSB accident investigations from 2010 to 2018 wherein there was ineffective emergency response training, planning, and communication between companies, emergency responders, and the community. Among others, some of the key lessons were:

- There must be effective communications and information sharing between facilities with hazardous chemicals, emergency responders, and community members before, during, and after emergencies.
- Communities should have redundant communication systems in place to notify residents of a chemical emergency.

b. Release Detection

CAA section 112(r)(7)(B)(ii) clearly anticipated a potential regulatory requirement for facilities to detect accidental releases of their substances to protect human health and the environment. Conforming to the performance-based nature of the RMP rule, the existing regulations allow facility owners or operators to develop mechanisms to detect releases and notify local authorities and the public—either directly or through local authorities—of releases at their facility.

Currently, RMP facilities are required to collect information and evaluate how they will detect releases at their facility. For example, facilities with Program 2 processes are required in their hazard review to identify any steps used or needed to detect or monitor releases (40 CFR 68.50(a)(4)). Facilities with Program 3 processes are required to identify detection systems when compiling their process safety information (40 CFR 68.65(d)(1)(viii)) and address appropriate application of detection methodologies to provide early warning of releases in their PHA (40 CFR 68.67(c)(3)).

RMP facilities with Program 2 and 3 processes are also required to report in their risk management plans, the monitoring and detection systems in use for their regulated processes (40 CFR 68.170(e)(5) and 68.175(e)(5)). When reporting in their risk management plans, owners and operators can select up to four categories that apply to how releases are detected from their processes: ''process area detectors'', ''perimeter monitors'', ''none'', or ''other monitoring/detection system in use''. When process area detectors or perimeter monitors are selected, no further information is collected. To better understand electronic detection methodologies available and in use among RMP facilities, EPA is proposing to require owners and operators to input, in an open text field in the risk management plan, specific information on their process area detectors and perimeter monitor technologies and models in use to detect RMP-regulated substances.

Due to the numerous RMP-regulated substances—and different technologies and methods available of accurately detecting those substances—EPA expects facilities to identify the most effective method of detecting releases of their specific substances, from their specific process operations, based on RAGAGEP. For example, EPA would expect facilities with anhydrous ammonia in ammonia refrigeration systems to adopt IIAR 9–2020, ''Minimum System Safety Requirements for Existing Closed-Circuit Ammonia Refrigeration Systems'' [276] (specifically, section 7.3.12), to address the specific requirements for ammonia detection and alarms in machinery rooms. For water and wastewater treatment facilities using gaseous chlorine, EPA would expect adoption of the Chlorine Institute's ''Pamphlet 73, Atmospheric Monitoring Equipment for Chlorine

[268] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

[269] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

[270] *Plaintiff* v. *Apache Nitrogen Products, Inc.,* an Arizona Corporation, No. 4:20–cv–00463–BGM, Document 3–1 (October 28, 2020), *https://www.justice.gov/enrd/consent-decree/file/1332206/download.*

[271] CSB, *Safety Digest: Emergency Planning and Response* (2018), *https://www.csb.gov/assets/1/17/csb_emerg_resp_safety_digest.pdf?16429.*

[272] CSB, ''Bayer CropScience Pesticide Waste Tank Explosion,'' last modified January 20, 2011, *https://www.csb.gov/bayer-cropscience-pesticide-waste-tank-explosion/.*

[273] CSB, ''West Fertilizer Explosion and Fire,'' last modified January 28, 2016, *https://www.csb.gov/west-fertilizer-explosion-and-fire-/.*

[274] CSB, ''MGPI Processing, Inc. Toxic Chemical Release,'' last modified January 3, 2018, *https://www.csb.gov/mgpi-processing-inc-toxic-chemical-release-/.*

[275] CSB, ''Arkema Inc. Chemical Plant Fire,'' last modified May 24, 2018, *https://www.csb.gov/arkema-inc-chemical-plant-fire-/.*

[276] IIAR, *ANSI/IIAR Standard 9–2020* (2020).

(2021)'' [277] to ensure best practices for detecting chorine. For petroleum refineries using HF in alkylation units, an appropriate guideline is API's ''Safe Operation of Hydrofluoric Acid Alkylation Units (2021)'' [278] (section K.3.2), which covers how to provide early and reliable HF detection.

c. Emergency Response Guidance

Current widely accepted industry guidance indicates that timely notification is necessary during hazardous chemical release events and that relying only on emergency responders, particularly those with inadequate resources, may not be enough to protect the public.

The NFPA 1600®, ''Standard on Continuity, Emergency, and Crisis Management (2019),'' [279] indicates that entities shall develop a plan and procedures to disseminate information to—and respond to requests for information from—both internal and external audiences. It states that the entity should determine its warning, notification, and communication needs; in addition, the systems must be reliable, undergo testing, and include issuing warnings through authorized agencies. It also states that facilities should establish and implement a process whereby all appropriate stakeholders have a common reference for the types of incidents that could adversely affect people, property, operations, or the environment and are able to warn, notify, and report on the circumstances.

The American Society for Testing and Materials (ASTM) International's 2020 ''Standard Guide for Coordination and Cooperation between Facilities, Local Emergency Planning Committees, and Emergency Responders'' (ASTM E3241–20) [280] aims to provide increased coordination and cooperation among stakeholders to develop better community preparedness for accidents involving hazardous chemicals. The standard indicates that facilities must be part of the preparedness effort because of their greater expertise on the properties of the hazardous chemicals present, as well as their knowledge of operating systems and procedures, hazard assessments, and their emergency response capabilities. ASTM E3241–20 specifically indicates that facilities must participate in the development of public warning and evacuation procedures and that they must collaborate with local emergency responders to mutually develop protocols for public warning and orders to shelter or evacuate.

The United Nations Environment Programme's 2015 ''Awareness and Preparedness for Emergencies at the Local Level'' handbook [281] offers processes to improve community awareness and preparedness for technological hazards and environmental emergencies. The handbook indicates that facility owners and operators are fully responsible for accident prevention and emergency response procedures for their operations. The handbook also states that the facility will best understand the hazards and risks, protective measures, and response procedures—and that these must be shared both during preparedness planning and during the response to any accident.

These guidance documents outline the importance of having a coordinated effort to ensure public notification of accidental releases. They also encourage facility owners and operators to be accountable in their role for providing accurate information to the necessary authorities to ensure appropriate data are shared with the people who are affected by the release.

2. Proposed Modification and Amplifications of Emergency Response Requirements

a. Proposed Regulations To Address Community Notification of RMP Accidents

EPA is proposing to amend 40 CFR 68.90(b) by adding a requirement necessary for RMP facility owners and operators to designate their facility as a non-responding facility. The proposed provision would require facilities to develop and implement, as necessary, procedures for informing the public and the appropriate Federal, State, and local emergency response agencies about accidental releases of RMP-regulated substances and ensure that a community notification system is in place to warn the public within the area threatened by a release. Expanding the recordkeeping and implementation aspect of this provision to non-responding facilities would help ensure that all facilities subject to subpart E, have documented knowledge of the public notification process that would occur when there is an accidental release at the facility. Consistent with the overall performance-based nature of the RMP rule, the owner or operator of a facility has some flexibilities in the development of its procedures so long as the procedures meet the performance-based requirement to inform and notify the public and response agencies. This provides facilities with flexibility in the design of the procedures so long as the procedures are implemented in the event of an accidental release.

The proposed amendment would also help clarify the facility's role in the implementation of that notification process by requiring the owner or operator to provide the information needed to initiate a public release notification. EPA anticipates that in most cases, these notification procedures may be identical to those coordinated with and relied upon by local public responders. EPA expects that this proposed provision, in combination with the required annual emergency coordination meetings and notification exercises, would enhance coordinated notification to the public and improve documented accountability for the notification process. EPA is also proposing that these notification procedures be available by the facility upon request to the public living in close proximity (approximately within 6 miles) to RMP facilities, to help ensure that members of the public are aware of the steps the facility has taken to notify them when a release occurs. Further details pertaining to information available to the public is discussed in section IV.C of this preamble.

EPA is also proposing to amend 40 CFR 68.95(a)(1)(i), which currently requires responding facilities to have procedures for informing the public and the appropriate Federal, State, and local emergency response agencies about accidental releases. This proposed amendment would ensure that a community notification system is in place in order to quickly and efficiently warn the public within the area that could be threatened by a release.

EPA can expect facilities to ensure that a community notification system is available because the Federal Emergency Management Agency (FEMA) has established the Integrated

[277] The Chlorine Institute, *Pamphlet 73) Atmospheric Monitoring Equipment for Chlorine* (2021), *https://bookstore.chlorineinstitute.org/pamphlet-73-atmospheric-monitoring-equipment-for-chlorine.html?Session_ID=66da3abed669d2ecb4448e5c1c17ba5e.*

[278] API, *Recommended Practice 751* (2021), *https://www.api.org/oil-and-natural-gas/health-and-safety/refinery-and-plant-safety/process-safety/process-safety-standards/rp-751.*

[279] NFPA, *NFPA 1600: Standard on Continuity, Emergency, and Crisis Management* (2019), *https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1600.*

[280] ASTM International, ''Standard Guide for Coordination and Cooperation Between Facilities, Local Emergency Planning Committees, and Emergency Responders,'' last modified May 25, 2020, *https://www.astm.org/e3241-20.html.*

[281] United Nations Environment Programme, *Awareness and Preparedness for Emergencies at Local Level* (2015), *https://www.preventionweb.net/files/45469_unepawarenesspreparednessemergencie.pdf.*

Public Alert & Warning System (IPAWS) for community notification.[282] This system provides authenticated emergency and life-saving information to the public through mobile phones using wireless emergency alerts. It also provides alerts to radio and television via the Emergency Alert System and on the National Oceanic and Atmospheric Administration's Weather Radio. The Emergency Alert System devices found at radio, TV and cable stations can support multiple languages and wireless Emergency Alerts can support both English and Spanish.[283] EPA believes that the presence of State and/or local IPAWS alerting authorities—with the designated authority to alert and warn the public when there is an impending natural or human-made disaster, threat, or dangerous or missing person [284]—in all 50 states provides the necessary infrastructure for facilities to ensure that a community notification system is operational within any impact zones of releases that occur from their facility. The most applicable alerts through this system would be the imminent threat and public safety alerts. Imminent threat alerts include natural or human-made disasters, extreme weather, active shooters, and other threatening emergencies that are current or emerging. Public safety alerts contain information about a threat that may not be imminent, or about an imminent threat that has occurred.[285]

EPA expects local responding authorities to notify the community as authorized through IPAWS. In the RMP General Guidance, EPA states that although a non-responding facility is not responsible for developing emergency response capabilities, it is responsible for ensuring effective emergency response to any releases at the facility. If local public responders are not capable of providing such response, EPA guidance urges facilities to take steps to ensure that effective response is available.[286] Therefore, EPA expects facilities to work with the local responders to ensure that, during a release, all necessary resources are in place for a community notification system to function and operate as expected.

EPA is also proposing to amend 40 CFR 68.90(b)(3) and 68.95(c) to require facilities to provide necessary entities with initial RMP accidental release information during releases of regulated substances in order to ensure that information is available to the public and the appropriate Federal, State, and local emergency response agencies. Specifically, EPA is proposing that whichever method is used to detect accidental releases,[287] the facility—regardless of responding status—must ensure that the public is promptly notified by the method outlined in the facility's emergency response plan in coordination with local responders. Facilities should do this by providing appropriate, timely data and information to local responders, and detailing the current understanding and best estimates of the nature of the release. This should include the regulated substance released, estimated time the release began, estimated quantity already released and potential quantity to be released, and potential consequences of the release to human health and the environment. EPA realizes that when facility owners and operators first detect a release, they may not have all the details of the situation. However, EPA expects RMP facility owners and operators to be familiar enough with their regulated substances, processes, and potential release scenarios to promptly notify the public to support timely protective actions. EPA would also expect owners and operators to provide follow-up information about the release to local responders as soon as possible, to either provide more accurate data or to correct erroneous data that had been previously relayed. EPA expects that the annual emergency response coordination meetings (40 CFR 68.93) and notification exercises (40 CFR 68.96(a)) will help to ensure that these plans and procedures are discussed and practiced.

The Agency recognizes the possible tradeoff between early notification and accuracy. In some cases, a potential or actual release may be averted or mitigated within the facility well before any exposure to toxic fumes, intense heat, or blast overpressure occurs to the community. Early notification, or even ''false positives'' have the potential to disrupt communities and divert public response resources. Nevertheless, given the gravity of potential accidental releases of regulated substances from processes subject to the RMP rule—and in light of repeated expressions of concern heard at the 2021 listening sessions—EPA believes its proposed amendments will provide a greater level of comfort and overall safety to communities surrounding RMP facilities. EPA requests public comment on the Agency's proposed approach.

While responding and non-responding facilities should have mechanisms and procedures in place to notify the public through emergency response plans at 40 CFR 68.90(b)(3) and 68.95(a)(1)(i), amending the current requirements to explicitly include the current understanding and best estimates of data and information pertaining to the release would help ensure timely decisions about notification of those releases, particularly those with offsite impacts. EPA expects that the requirement to provide this information will help ensure that local responders have sufficient information to make the best decision on whether community notification is appropriate. Through this proposed provision, along with the recently promulgated requirements for annual coordination meetings and notification exercises, EPA expects that emergency response efforts and communications will be practiced and refined. EPA also seeks comment on what additional information would be useful to share in these scenarios.

b. Community Emergency Response Plan Amplifications

According to 40 CFR 68.90(b)(1) and 40 CFR 68.95(c), respective non-responding and responding facilities are currently required to be coordinated with the community emergency response plan developed under EPCRA Section 303, 42 U.S.C. 11003, ''Comprehensive Emergency Response Plans.'' [288] The plan is prepared by LEPCs/TEPCs to evaluate the need for resources necessary to develop, implement, and exercise the emergency plan. The plan must include at least the following:

[282] FEMA, ''Integrated Public Alert & Warning System,'' last modified January 27, 2022, *https://www.fema.gov/emergency-managers/practitioners/integrated-public-alert-warning-system.*

[283] FEMA, ''Alerting People with Disabilities and Access and Functional Needs,'' accessed March 17, 2022, *https://www.fema.gov/es/emergency-managers/practitioners/integrated-public-alert-warning-system/public/alerting-people-disabilities.*

[284] FEMA, ''Alerting Authorities,'' last modified January 6, 2022, *https://www.fema.gov/emergency-managers/practitioners/integrated-public-alert-warning-system/public-safety-officials/alerting-authorities.*

[285] FEMA, *TIP 38: Imminent Threat* vs. *Public Safety* (2021), *https://www.fema.gov/sites/default/files/documents/fema_ipaws-tip-38-it-vs-ps.pdf.*

[286] EPA, *General Guidance on Risk Management Programs Chapter 8: Emergency Response* (2021), p. 8–6, *https://www.epa.gov/sites/default/files/2013-11/documents/chap-08-final.pdf?VersionId=vLaBwe1S2zXXrwsxM3HfR0Ko4ZvYXvWD.*

[287] EPA acknowledges the multiple comments received regarding fence-line monitoring of RMP releases and seeks additional comment to gather further information on the consideration of fenceline monitoring for the RMP rule. Information sought per this issue is outlined in the Technical Background Document.

[288] *Comprehensive Emergency Response Plans,* 42 U.S.C. 11003, (October 17, 1986), *https://www.govinfo.gov/content/pkg/USCODE-2020-title42/pdf/USCODE-2020-title42-chap116-subchapI-sec11003.pdf.*

- Identification of facilities within the emergency planning district, identification of routes likely to be used for the transportation of substances on the list of extremely hazardous substances, and identification of additional facilities contributing or subjected to additional risk due to their proximity to facilities subject to the requirements of EPCRA subchapter I under Title 42, Chapter 116, such as hospitals or natural gas facilities.
- Methods and procedures to be followed by facility owners and operators and local emergency and medical personnel to respond to any release of such substances.
- Designation of a community emergency coordinator and facility emergency coordinators, who shall make determinations necessary to implement the plan.
- Procedures providing reliable, effective, and timely notification by the facility emergency coordinators and the community emergency coordinator to persons designated in the emergency plan, and to the public, that a release has occurred.
- Methods for determining the occurrence of a release, and the area or population likely to be affected by such release.
- Description of emergency equipment and facilities in the community and at each facility in the community subject to the requirements of EPCRA subchapter I under Title 42, Chapter 116, and an identification of the persons responsible for such equipment and facilities.
- Evacuation plans, including provisions for a precautionary evacuation and alternative traffic routes.
- Training programs, including schedules for training of local emergency response and medical personnel.
- Methods and schedules for exercising the emergency plan.

EPA wants to ensure RMP-regulated facilities understand how their facility's processes could impact the larger community emergency response plan, and the facility's role in coordination on the required plan provisions. Therefore, EPA is proposing to explicitly state the required provisions of the community response plan in the RMP regulatory text. EPA would expect the facility to discuss the community plan with appropriate LEPC officials as part of the facility's coordination activities. Only if the LEPC plan was clearly deficient would EPA consider any action against the facility for relying on it for response.

Additionally, the Agency realizes community emergency response plans contain useful information for the public to learn how RMP facility processes are accounted and planned for if there is an RMP-regulated accidental release. EPA seeks comment about impediments to accessing community emergency response plans and potential solutions to having the plans more accessible within the scope of the RMP regulations.

3. Emergency Response Exercises

a. Proposed Amendments to the Emergency Response Requirements

EPA is proposing to revise 40 CFR 68.96(b)(1)(i) to require all facilities with Program 2 and Program 3 processes and subject to the emergency response program requirements of subpart E (*i.e.,* the responding stationary source), at a minimum, conduct field exercises involving a simulated accidental release of a regulated substance once every 10 years, unless local responders indicate that frequency is infeasible. EPA is also proposing to amend 40 CFR 68.96(b)(3) to require that the current recommended field and tabletop exercise evaluation report components be mandatory.

b. Field Exercise Frequency

The 2017 amendments rule added the field exercise provision to support reducing accident impacts by ensuring that emergency response personnel understood their roles in the event of an incident, that local responders were familiar with the hazards at a facility, and that the emergency response plans were up to date. The Agency believed that even the smallest sources would be able to hold field exercises at least once each decade and, in many cases, it expected sources would hold field exercises more often.[289]

In the 2019 reconsideration rule, EPA modified the frequency of field exercises by removing the minimum frequency requirement of at least every 10 years. The Agency removed the 10-year field exercise frequency to reduce burden on local emergency responders with multiple RMP-covered facilities and on small counties with limited resources—many of which are rural and rely on volunteers.[290] The final rule was therefore modified to require the owner or operator to consult with local emergency response officials to establish an appropriate frequency.

Emergency response field exercise frequency was the theme of multiple comments submitted during the 2021 listening sessions. Labor unions, multiple advocacy groups, and an individual commenter all submitted comments requesting EPA to not only require emergency response exercises, but to also set deadlines for their completion.[291] Further, a State regulatory agency suggested that EPA require RMP facilities to complete an annual full-scale emergency response exercise that would include testing containment, mitigation, and monitoring equipment. The commenter indicated that regular, hands-on practice is important due to the frequent turnover of RMP facility personnel.[292] In contrast, an industry trade association argued that the emergency response exercises under the current regulations work well and that flexibility regarding the timing of the exercises benefits both RMP facilities and emergency response organizations.[293]

EPA is cognizant of the resources (*e.g.,* staff, experts, funds) that field exercises demand, particularly in small rural communities and those with multiple RMP facilities. However, EPA maintains that exercising emergency response plans within a reasonable, frequent time frame is vital to ensuring that emergency response programs will work well in the event of an accidental release. The NFPA 1600® Standard on Continuity, Emergency, and Crisis Management takes a similar position, indicating that exercises and tests should be conducted at the frequency needed to establish and maintain required capabilities.[294]

A 2016 NASTTPO survey, which aimed to gather information about levels of activity of LEPCs and identify areas for improvement, found that the number of LEPCs had decreased nationwide due to complacency, time, interest, and funding.[295] [296] While 87 percent of LEPCs indicated that they had participated in emergency response

[289] EPA, *2017 Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act* 82 FR 4594 (January 13, 2017).

[290] EPA, *2019 Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act,* 84 FR 69834 (December 19, 2019).

[291] EPA–HQ–OLEM–2021–0312–0057; 0058, 0079, 0149, 0032, 0170.

[292] EPA–HQ–OLEM–2021–0312–0039.

[293] EPA–HQ–OLEM–2021–0312–0071.

[294] NFPA, ''NFPA 1600® Standard on Continuity, Emergency, and Crisis Management,'' accessed March 1, 2022, *https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1600.*

[295] NASTTPO, *2016 Local Emergency Planning Committee (LEPC) Survey: Final Report* (2016), *https://webcms.pima.gov/UserFiles/Servers/Server_6/File/Government/Local%20Emergency%20Planning%20Committee/Meetings%20Agendas%20and%20Minutes/2016/2016%20LEPC%20Survey%20Final%20Report%20-%20FInal.pdf.*

[296] EPA, 2008 Nationwide Survey of Local Emergency Planning Committees (LEPCs): Final Report (2008), *https://www.epa.gov/sites/default/files/2013-08/documents/2008_lepcsurv.pdf.*

exercises, over 50 percent reported that conducting drills/exercises was an area where they felt additional assistance could be provided. EPA wants to ensure that facilities are accountable to the communities in which they are located. One way to do this is to make sure that communities have mechanisms to evaluate the resources and capabilities needed to assist in a response to an accidental release and that they can perform field exercises involving actual emergency response functions to simulated release events.

EPA believes many responding facilities with RMP processes are making plans and intending to conduct field exercises on a timeline that is appropriate for establishing and maintaining required emergency response capabilities. However, EPA is concerned that some responding sources may use the flexibility in the current regulation to never hold field exercises with local responders or to hold them so infrequently that the owner or operator's response to an accidental release would be ineffective. One listening session commentor in support of setting deadlines for field exercises indicated that without a compliance frequency, the provision to conduct emergency field exercises is purely symbolic and is an empty requirement.[297] EPA wants to ensure all facilities conduct regular field exercises if they have the resources and capabilities to do so. The Agency hopes to avoid a scenario where responding sources impose a schedule that practically exempts them from the exercise program requirements, particularly if the local responders know that conducting exercises would be beneficial for response efforts.

Therefore, EPA is proposing to amend 40 CFR 68.96(b)(1)(i) to require all facilities with Program 2 and Program 3 processes and subject to the emergency response program requirements of subpart E (*i.e.,* the responding stationary source) to, at a minimum, conduct field exercises involving a simulated accidental release of a regulated substance once every 10 years unless local responders indicate that frequency is impractical. EPA expects assigning this frequency to the provision, but providing for relief in specific circumstances, will work for all organizations and communities to prepare for or further assess the ability to respond to accidental releases. Because facilities have always had a requirement to do a field exercise, an added provision with a 10-year phase in should have minimal impact on sources who may have relied upon the 2019 provision, which has been in place for only three years. Moreover, local responders continue to have the option not to participate, which also diminishes any possible reliance interests. EPA expects that the frequency of field exercises and any justification for not being able to conduct them on a 10-year schedule will be discussed through annual coordination meetings. Although written justification from local responders will allow facilities with relief from this proposed provision, EPA expects this dialogue will address supposed barriers to carrying out field exercises with some frequency and result in creative solutions such as focusing the scope of exercises or conducting joint exercises with neighboring facilities. This proposed amendment will help ensure the safety of communities by more frequently confirming that local responders are prepared for an accidental release.

c. Exercise Evaluation Reports

The 2017 amendments rule added the field and tabletop exercise evaluation report provision. This provision required either the preparation of a report within 90 days of each field and tabletop exercise (40 CFR 68.96(b)(3)) or, an after-action report comparable to the exercise evaluation report required when owners or operators use a response to an accidental release to meet their field exercise requirement (40 CFR 68.96(c)(2)). The report in either situation would be required within 90 days of the exercise or accident and must include a description of the scenario, names and organizations of each participant, an evaluation of the exercise results including lessons learned, recommendations for improvement or revisions to the emergency response exercise program and emergency response program, and a schedule to promptly address and resolve recommendations. EPA believed that maintaining a written record including, among other things, the identification and affiliation of exercise participants, would be useful in planning future exercises.

The 2019 reconsideration rule scaled back the exercise reporting requirements, making the exercise report elements recommended rather than mandatory. The Agency indicated that making the reporting requirements non-mandatory would reduce the regulatory burden and allow emergency response personnel the flexibility to decide which exercise documentation would be most appropriate for the facility and community.

EPA now recognizes there may be an inconsistency between the recommended exercise evaluation and mandatory incident investigation documentation requirements, as one provision can be used to satisfy the other. Current incident investigation regulations under 40 CFR 68.60 and 68.81 require incident investigation reports to include specific elements: the date of incident, the date the investigation began, a description of the incident, the factors that contributed to the incident, and any recommendations resulting from the investigation. Under the current field and tabletop documentation provisions, facilities would be allowed to satisfy the documentation requirement for field and tabletop exercises through an after-action report following an accidental release. EPA believes that, in most cases, these accidental releases would be those that need to be investigated per 40 CFR 68.60 and 68.81. Many of the incident investigation and exercise evaluation reporting requirements are similar. EPA believes it should be consistent in its requirements to ensure there is no confusion related to reports that can be used interchangeably.

Therefore, EPA is proposing to amend 40 CFR 68.96(b)(3) to require that the current recommended exercise evaluation report elements be mandatory rather than recommended. EPA contends that making these exercise report components mandatory will help not only to eliminate confusion about what is required when evaluating an actual or simulated response, but also provide consistency on elements that are crucial to the exercise improvement planning process.

C. Information Availability

EPA is proposing to amend 40 CFR 68.210 to allow the public to request specific chemical hazard information if they reside within 6 miles of a facility. As discussed below, the 6-mile restriction would allow access to information for the vast majority of the public that are within worst case scenario impact zones. Having received such a request, the facility would be required to provide certain chemical hazard information and access to community emergency preparedness information. This proposal is similar to the 2017 amendments rule, with the added modification that information be restricted to those persons within 6 miles of the facility.

1. Recent Public Input on Information Availability

During EPA's 2021 listening sessions, approximately 210 commenters

[297] EPA–HQ–OLEM–2021–0312–0170.

provided feedback on information availability requirements. Multiple commenters, including advocacy groups, individual commenters, and labor unions, expressed support for expanding information availability to improve the safety of first responders and community members.[298] An association of government agencies said that LEPCs' access to information is vital and suggested that EPA grant LEPCs the ability to request relevant information from RMP facilities, similar to the level of access under EPCRA for facilities with extremely hazardous substances.[299] Multiple advocacy groups, via a joint submission, and an individual wrote that EPA's Chemical Emergency Preparedness and Prevention Office and CSB agreed that ''transparency between industry and the public improves community safety.'' [300] An advocacy group said that many residents near RMP facilities are not aware that they are located near these facilities, as EPA has not shared a list of where the communities most at risk are located.[301] Multiple advocacy groups and an individual commenter said that risk management plans should be available online—for example, through EPA's website, the RMP facility's corporate website, and public libraries.[302] A State elected official suggested that EPA create an online database through which the public can read summaries of risk management plans; this would avoid releasing sensitive security information about RMP facilities while also informing the public of relevant community safety concerns.[303]

2. Information Availability in the 2017 Amendments and the 2019 Reconsideration Rule

The 2017 amendments rule added new information availability requirements, including the requirement for the owner or operator to provide—within 45 days of receiving a request by any member of the public—specified chemical hazard information for all RMP-regulated processes. The provision required the owner or operator to provide ongoing notification on a company website, on social media platforms, or through other publicly accessible means such that the information is available to the public upon request, along with the information elements that may be requested and instructions for how to request the information. In the 2019 reconsideration rule, EPA removed these elements because of a benefit versus risk calculation, observing that much RMP information was available through other means while widespread anonymous access to the consolidated information posed potential security risks.

EPA stated in its 2019 reconsideration rule that part of its rationale for rescinding information availability provisions was that the 2017 amendments rule ''underweighted security concerns in balancing the positive effects of information availability on accident prevention and the negative effects on public safety from the utility to terrorists and criminals of the newly available information and dissemination methods.'' In its rationale for the 2019 reconsideration, EPA cited the Department of Justice (DOJ) report ''Assessment of the Increased Risk of Terrorist or Other Criminal Activity Associated with Posting Off-Site Consequence Analysis Information on the internet,'' [304] which found that assembling the otherwise-public data is valuable in identifying and focusing on sources that have conducted criminal acts. The goal of DOJ's assessment was to determine which variables and forms of dissemination would create vulnerabilities enabling a terrorist attack. In the 2019 reconsideration rule, EPA stated the 2017 provisions would make otherwise-public information newly anonymously accessible via the web and other means in a more consolidated fashion. EPA observed that this consolidated information ''may present a more comprehensive picture of the vulnerabilities of a facility than would be apparent'' otherwise, and thus potentially increasing terrorist risk (84 FR 69887, December 19, 2019).

EPA is proposing a provision to increase information availability to communities that balances information availability to communities with the previously identified security concerns. EPA believes the proposed amendment to add a 6-mile radius ensures that even if community members obtain information related to offsite consequences analysis (OCA) data, it would require a difficult nationwide-coordinated effort among people within 6 miles of each facility to create the type of online database described in DOJ's report. The proposed provisions simply require RMP facilities to provide their chemical hazard information to communities within a 6-mile radius of the facility, when previously they were not required to. Because RMP facilities were, and will continue to be, in possession of this information, it is unlikely that such a change would result in any possible prejudice to the facilities based on their reliance on the 2019 reconsideration rule provisions, which have only been in place for 3 years.

In its 2019 reconsideration rule, EPA mentioned that members of the public can view risk management plans at Federal Government reading rooms, obtain risk management plan information from State or local government officials with risk management plan data access, or submit a request to EPA under the FOIA (for non-OCA risk management plan information). EPA also mentioned that owners and operators of regulated facilities may disclose risk management plan information for their own facilities if they so choose. While current OCA provisions allow for a person visiting a reading room to request information of up to 10 facilities per year regardless of location as well as the OCA information for all facilities with a vulnerable zone that extends into the jurisdiction of the LEPC/TEPC where the person lives or works, there are a limited number of reading rooms even in large states, and these reading rooms generally are not located close to the communities potentially impacted by process safety at particular facilities. While the reading room restrictions are necessary for OCA information, the restrictions in locations and access make them an inefficient way to access information in the risk management plans that Congress chose not to restrict when it enacted the Chemical Safety Information, Site Security and Fuels Regulatory Relief Act 42 U.S.C. 7412(r)(7)(H)(ii). By creating a 6-mile radius, EPA allows communities with more than one facility to request information on all the sources to which they may be potentially exposed in the event of a release.

The 2019 reconsideration rule mentioned that community members may request information from their LEPCs; however, subsequent analysis of active facility risk management plan submissions demonstrates that 10 percent of active facilities have not provided information on the names of their LEPCs.[305] Without further

[298] EPA–HQ–OLEM–2021–0312–0016; 0020, 0025, 0026, 0035, 0036, 0040, 0042, 0051, 0057, 0058, 0060, 0072, 0358, 0387.

[299] EPA–HQ–OLEM–2021–0312–0072.

[300] EPA–HQ–OLEM–2021–0312–0151; 0149.

[301] EPA–HQ–OLEM–2021–0312–0170.

[302] EPA–HQ–OLEM–2021–0312–0035; 0042, 0036, 0060, 0149.

[303] EPA–HQ–OLEM–2021–0312–0043.

[304] DOJ, *Assessment of the Increased Risk of Terrorist or Other Criminal Activity Associated with Posting Off-Site Consequence Analysis Information on the internet* (2000), *https://www.regulations.gov/document/EPA-HQ-OEM-2015-0725-2003,* EPA–HQ–OEM–2015–0725–2003.

[305] 40 CFR 68.160(b)(18).

information as to why facilities left this portion of the risk management plan submission blank, it is possible that LEPCs may not exist for those facilities, that the LEPC may have existed but is inactive, or that the facility is not in communication with its LEPC. EPA routinely receives FOIA requests for OCA and non-OCA versions of the risk management plan database from local and State emergency response entities, which may indicate that local emergency response entities also have difficulty in obtaining this information from facilities.

EPA also conducted a parallel benefits assessment in 2000, describing the benefits of providing community access to risk management plan information.[306] EPA found that public disclosure of risk management plan information would likely lead to a reduction in the number and severity of accidents. It also found that comparisons between facilities, processes and industries would likely lead industry to make changes and would stimulate dialogue among facilities, the public, and local officials to reduce chemical accident risks. EPA also concluded that given the opportunity, the public would use hazard information to take action, thus lead to risk reduction, citing the reduction in emissions following publicly available TRI information.

EPA is proposing individuals within a 6-mile radius of RMP facilities be able to obtain specific chemical hazard information. EPA believes this distance to be reasonable as 90 percent of all toxic worst-case distances to endpoints are 6 miles or less, and almost all flammable worst-case distances are less than 1 mile. The 6-mile radius for being able to request information from facilities allows people in most areas potentially impacted by a WCS to have access to information while also providing a limit on widespread access to nationwide assembly of data. The proposed approach uses aggregate worst case scenario data and does not rely on individual worst cases for each facility because EPA cannot by rule force disclosure of OCA information to the public. EPA notes that 5 percent of worst-case distances for toxics are more than10 miles, while 67 percent of scenarios are under 3 miles. EPA seeks comment on whether the 6-mile radius is appropriate and provides the information on 10 miles and 3 miles as potential alternatives. For alternative distances supported by commenters, EPA requests information on the justification for these alternative distances.

3. Proposed Regulatory Revisions

In the 2017 amendments rule, EPA added several new provisions to 40 CFR 68.210, ''Availability of Information to the Public.'' These included:

- A requirement for the owner or operator to provide, upon request by any member of the public, specified chemical hazard information for all regulated processes, as applicable, including names of regulated substances held in a process; Safety Data Sheets (SDSs) for all regulated substances located at the facility; accident history information required to be reported under 40 CFR 68.42; and emergency response program information, including whether or not the source responds to releases of regulated substances, name and phone number of local emergency response organizations, and procedures for informing the public and local emergency response agencies about accidental releases.
- A requirement for the owner or operator to provide ongoing notification on a company website, on social media platforms, or through other publicly accessible means that the above information is available to the public upon request, along with the information elements that may be requested and instructions for how to request the information, as well as information on where members of the public may access information on community preparedness, including shelter-in-place and evacuation procedures.
- A requirement for the owner or operator to provide the requested chemical hazard information within 45 days of receiving a request from any member of the public.

EPA is proposing to restore these provisions for community members living within 6 miles of a facility. EPA contends this will allow affected communities to obtain information from RMP facilities. Allowing all community members demonstrating residence within 6 miles of the facility to request this information would ensure information availability in areas without LEPCs/TEPCs. The proposed 6-mile limitation seeks to limit the potential security risk of allowing anonymous confidential access of this information to the entire public that was of concern to EPA in the 2019 reconsideration rule. The proposed approach strikes a better balance between those security concerns and the interests of people living near facilities who could benefit from the information: personal preparedness in the event of an accident, knowledge of safety conditions where one lives, and more informed participation in community safety planning. EPA seeks comment on the 6-mile limitation and whether it balances security concerns and community access to information. While much, if not all, of the information to be disclosed upon request to facilities under this proposed provision is otherwise publicly available with little geographic limitation, the additional method of access EPA is proposing make access simpler for people who are near facilities.

a. Request for Comment on Potential Non-Rule RMP Access Policy Changes

While these proposed regulatory changes will improve information sharing within communities, they do not resolve concern that fenceline communities are often unaware of RMP facilities near them. To request facility information, a member of the public would need to know how to access it, have the means to access it, and know that the facility exists in their community in order to determine how to access and request the information. These barriers do not appropriately facilitate community right-to-know or equitable distribution of knowledge on fenceline community risks to those most affected by potential releases. In the 2019 proposed rule comment period, commenters pointed out that reading rooms are not a realistic avenue for public access to information.[307] EPA also recognizes the additional impracticalities that the COVID–19 pandemic has imposed on reading room options. Many commenters mentioned delays in accessing information and limitations on data requests from reading rooms. Further, most states only have one reading room, which complicates public access to information from that source. Commenters also mentioned equity issues given the expertise and language issues required to access information. In its 2000 benefits assessment,[308] EPA also noted that obtaining information from LEPCs is difficult and a central repository would improve ease of information access. EPA's past experience in implementing EPCRA had shown that many State and local officials needed assistance in managing the chemical information submitted to them on paper by industry under that

[306] EPA. April 18, 2000. Assessment of the incentives created by public disclosure of off-site consequence analysis information for reduction in risk of accidental releases.

[307] EPA–HQ–OEM–2015–0725–1598; 1869, 1925, 1969.

[308] EPA. April 18, 2000. Assessment of the incentives created by public disclosure of off-site consequence analysis information for reduction in risk of accidental releases.

law, and that the public often did not take advantage of this information since it was not conveniently available. Additionally, information on multiple RMP facilities is needed as it allows communities to compare risks between facilities, as well as potential cumulative risks owing to multiple facilities within a community. For communities with more than one facility, *e.g.,* communities like Harris County, Texas with large numbers of facilities, residents should not be expected to request information from each of these facilities, but rather, EPA should aggregate this information in a central location.

By policy, EPA has restricted access to the RMP database even though only a portion of the database is restricted by CAA 112(r)(7)(H) and its implementing regulations in 40 CFR part 1400. Other programs within EPA have demonstrated that facility and chemical information can be made publicly available, in a readily accessible format. EPA intends to, at a prospective date, begin publishing non-OCA risk management plan data annually, less any CAA 112(r)(7)(H) protected sensitive information. EPA has received comments in the past with concerns regarding confidential business information and directs these commenters to the requirements in 40 CFR 68.152 for substantive criteria set forth in 40 CFR 2.301. EPA notes that 40 CFR 1400.5 allows for the Administrator to include only the following OCA data elements in a database on the internet: (a) the concentration of the chemical; (b) the physical state of the chemical; (c) the statistical model used; (d) the endpoint used for the flammables in the worst-case scenario; (e) the duration of the chemical release for the worst-case scenario; (f) the wind speed during the chemical release; (g) the atmospheric stability; (h) the topography of the surrounding area; (i) the passive mitigation systems considered; and (j) the active mitigation systems considered. This initiative is in line with other hazardous substance reporting programs that have been long established at EPA. Further, EPA believes it can no longer not make this information available, as 5 U.S.C. 552(a)(2)(D)(ii)(II) requires that information that has been requested via FOIA three or more times be made ''available for public inspection in an electronic format'' when the information is likely to be requested again in the same format and is not otherwise privileged from disclosure. EPA is requesting comment on the variables provided in the Technical Background Document (Section 10), most of which are for public availability, and which (or combination of which) pose potential significant security risks.

b. Current Data Availability of Risk Management Plan Information

Currently, with few exceptions as indicated below, EPA does not make any of its OCA or non-OCA data available to the public online. The public can access or request risk management plan information through the methods described below. Based on these methods, EPA contends that current, publicly available information on the risk management plan national database is insufficient for informing communities about RMP-regulated facilities.

- Facility Registry Service (FRS) and Envirofacts.[309] EPA's FRS provides information about facilities regulated by a large number of EPA regulations under various statutes. Currently, the only information provided in the FRS for RMP-regulated facilities is the EPA Facility ID, EPA's unique identifier for RMP-regulated facilities. Because Envirofacts provides a multi-system search of facilities, including FRS, RMP EPA Facility IDs are also available in Envirofacts. Currently, neither public-facing version of the databases provides additional information or allows users to export information on more than one RMP facility.
- FOIA requests. EPA has processed FOIA requests for non-OCA data 242 times since 2015, an average of 35 times a year. Because the database is provided in Microsoft Access format and requires some technical background to examine results, most requestors tend not to be individuals or nonprofit environmental groups, but rather other government entities (both Federal and State), as well as consulting groups and government contractors.
- Federal reading rooms. 40 CFR part 1400 requires the Federal Government to allow any member of the public to obtain access to OCA information for up to 10 facilities per calendar month located anywhere in the country, without geographical restrictions, as well as any stationary sources in the jurisdiction of the LEPC where the person lives or works and for any other stationary source that has a vulnerable zone that extends into that LEPC's jurisdiction. Although EPA does not have plans to release protected OCA information on the internet, EPA hopes that making non-OCA risk management plan data publicly available will reduce the need for the public to access risk management plan data only through Federal reading rooms.
- Other information already publicly available. EPA notes that it appears information from the risk management plan database, less OCA sections, has been publicly available on the internet for over 20 years.[310] EPA is aware of other sources of information online for risk management plan data, however, these data are often outdated. The dataset provides information on location, amount of chemical stored, emergency response capabilities (*i.e.,* responding versus non-responding facility status), contact information, executive summary, and 5-year accident history.

c. Other EPA Facility Hazardous Substance Registries

EPA makes information available for several other Federal hazardous substances programs, such as the Toxics Release Inventory [311] under EPCRA and Chemical Data Reporting (CDR) [312] under the Toxic Substances Control Act, both of which have readily downloadable information (in Microsoft Excel format) [313] on facility quantity and location for facilities with regulated, threshold quantities of listed hazardous substances. EPA likewise seeks to make its non-OCA risk management plan information available in a readily accessible manner, akin to these two programs, and will coordinate with these two long-standing programs to consider relevant data quality and security concerns.

d. Balancing Security Risks and Community Right-To-Know

EPA maintains that public disclosure of risk management plan information would likely lead to a reduction in the number and severity of accidents.[314] Although EPA does intend to make its risk management plan data publicly available, it seeks comment on an approach that balances community

[309] Facility Registry Service, *https://www.epa.gov/frs.* Envirofacts, *https://enviro.epa.gov/.*

[310] The Right-to-Know Network, ''Risk Management Plans (RMP),'' last modified March 14, 2019, *https://rtk.rjifuture.org/rmp/.*

[311] EPA, ''Toxics Release Inventory (TRI) Program,'' last modified January 20, 2022, *https://www.epa.gov/toxics-release-inventory-tri-program.*

[312] EPA, ''Chemical Data Reporting Under the Toxic Substances Control Act,'' last modified August 25, 2021, *https://www.epa.gov/chemical-data-reporting.*

[313] EPA, ''Access CDR Data,'' last modified November 9, 2021, *https://www.epa.gov/chemical-data-reporting/access-cdr-data#2020.*

[314] EPA, *Assessment of the Incentives Created by Public Disclosure of Off-Site Consequence Analysis Information for Reduction in Risk of Accidental Releases* (April 18, 2000).

right-to-know and security concerns that arise by making such data publicly available in an easily accessible, consolidated location. EPA requests public comment on which specific information would be of most benefit and most concern.

EPA has long received comments on the potential security concerns in releasing risk management plan information. For example, in EPA's recent 2021 listening sessions, some commenters, including several industry trade associations, expressed opposition to expanding risk management plan information availability due to increased risks of terrorist attacks, cyberattacks, or other intentional acts of harm.[315] One industry trade association argued that certain information about RMP facilities needs to be kept confidential, such as the information deemed ''Chemical-terrorism Vulnerability Information'' or ''Sensitive Security Information'' under the Department of Homeland Security (DHS) Chemical Facility Anti-Terrorism Standards (CFATS) and the Maritime Transportation Security Act, respectively.[316] However, these comments did not specifically explain how releasing risk management plan data would increase particular security risks. EPA already protects OCA information as required by the CAA and will ensure that this action does not violate the CAA.

There exists no publicly available database of intentional acts upon the chemical process industries in the United States. In a 2021 study, researchers attempted to compile a database of such incidents, finding documentation of 84 incidents in the chemical and petrochemical industries.[317] [318] Root cause data on these incidents, which are not available, would be needed to determine if availability of information on the facility contributed to terrorist incidents, which were second to cybersecurity incidents as the most frequent overall cause. According to the database, no terrorist event in the process industries (excluding transportation and pipelines) has occurred in North America after the 1970s.[319] However, a lack of incidents may result from the safeguards currently in place. DHS promulgated CFATS in accordance with the Homeland Security Appropriations Act of 2007, owing to insufficient security at industrial facilities. In promulgating CFATS, DHS did not intend for information created under CAA 112(r) to constitute ''Chemical-terrorism Vulnerability Information,'' which is sensitive information pursuant to CFATS requirements (72 FR 17714). EPA routinely coordinates with DHS as part of the Chemical Facility Security and Safety Working Group and commits to working with DHS to find regulatory solutions that balance community right-to-know with security concerns.

Accidental releases occur much more often than intentional events (about 100 per year using EPA RMP-reportable accidents). Pre-incident information, such as the locations of facilities and potential disasters, allows communities to be more prepared for disasters,[320] which DOJ also recognized in its 2000 risk assessment.[321] With over 20 years of data now, EPA has based many of the proposed provisions on prior accident information.

EPA acknowledges that the Agency must consider whether some non-OCA data elements, or combinations of elements, may not be suitable for public release and should be restricted based on potential security risks. EPA has been and will continue to work with DHS, DOJ, and other Federal partners on identifying these risks. EPA is also involving the public through seeking comment. EPA requests comments on which elements, or combinations of elements, may pose a security risk if released to the public. EPA also notes that, while several commenters offered support in the 2019 reconsideration comment period for rescinding information availability requirements on the part of the facility, no commenters provided additional information to support security concerns.[322] For each element or combination of elements identified, EPA requests: (1) Specific comments on why the element or combination of elements presents a security risk and (2) documentation or basis for these security claims, such as risk or intelligence analysis, a prior incident, security threat, or near miss incident.

D. Other Areas of Technical Clarification

EPA has provided compliance assistance, conducted inspections, and undertaken enforcement of the RMP program since 1996. During that time, the Agency developed guidance documents, model RMPs, and answers to frequently asked questions to help facilities implement the RMP rule. Based on experience, EPA has identified various aspects of the RMP rule that use different terminology for the same requirement, have outdated definitions, or would be simpler for sources to implement with more discussion in the text of the regulation. The intent of the proposed changes to the regulatory text discussed in this section is to simplify implementation for facilities as well as oversight, thereby improving chemical safety. The proposed amendments do not change the meaning of the RMP rule. These points are raised below.

1. Process Safety Information

RMP regulations require that facilities keep process safety information up to date. For processes subject to Program 2 requirements, RMP regulatory text explicitly states in 40 CFR 68.48(a) that ''[t]he owner or operator shall compile and maintain the following up-to-date safety information related to the regulated substances, processes, and equipment.'' This is also addressed in 40 CFR 68.48(c), which states: ''The owner or operator shall update the safety information if a major change occurs that makes the information inaccurate.''

For processes subject to Program 3 requirements, the process safety information requirements within 40 CFR 68.54 do not explicitly address updating process safety information. Instead, that subject is addressed in several other parts of the Program 3 requirements, including the management of change requirements in 40 CFR 68.75, the pre-startup review requirements in 40 CFR 68.77, and the requirement to document that

[315] EPA–HQ–OLEM–2021–0312–0005; 0020, 0031, 0045, 0053, 0071, 0077.

[316] EPA–HQ–OLEM–2021–0312–0031.

[317] Valeria Casson Moreno et al., ''Analysis of Physical and Cyber Security–Related Events in the Chemical and Process Industry,'' *Process Safety and Environmental Protection* 116 (2018), 621–31, doi:10.1016/j.psep.2018.03.026.

[318] Matteo Iaiani et al., ''Analysis of Events Involving the Intentional Release of Hazardous Substances from Industrial Facilities,'' *Reliability Engineering & System Safety* 212 (2021), 107593, doi:10.1016/j.ress.2021.107593.

[319] This is not a complete dataset, because it was developed based on publicly available information. Available in the supplemental material of Matteo Iaiani et al., ''Analysis of Events Involving the Intentional Release of Hazardous Substances from Industrial Facilities,'' *Reliability Engineering & System Safety* 212 (2021), 107593, doi:10.1016/j.ress.2021.107593.

[320] Holly Carter, John Drury, and Richard Amlôt, ''Recommendations for Improving Public Engagement with Pre-incident Information Materials for Initial Response to a Chemical, Biological, Radiological or Nuclear (CBRN) Incident: A Systematic Review,'' *International Journal of Disaster Risk Reduction* 51 (2020), 101796, doi:10.1016/j.ijdrr.2020.101796.

[321] DOJ, Assessment of the Increased Risk of Terrorist or Other Criminal Activity Associated with Posting Off-Site Consequence Analysis Information on the internet (2000), *https://www.regulations.gov/document/EPA-HQ-OEM-2015-0725-2003,* EPA–HQ–OEM–2015–0725–2003.

[322] EPA–HQ–OEM–2015–0725–1461; 1867, 1904, 1909.

equipment complies with RAGAGEP in 40 CFR 68.65(d)(2).

Management of change requirements only apply to processes subject to Program 3 requirements, because there are no corresponding requirements for Program 2 processes. The management of change requirements address changes to process chemicals, technology, equipment, and procedures, as well as changes to stationary sources that affect covered processes. Pursuant to 40 CFR 68.75(d), process safety information is required to be kept up to date ''If a change covered by this paragraph results in a change in the process safety information required by § 68.65 of this part, such information shall be updated accordingly.''

The pre-startup review requirements in 40 CFR 68.77(a) apply to new stationary sources and modified stationary sources when the modification is significant enough to require a change in process safety information. Pursuant to 40 CFR 68.77(b), the pre-startup safety review must confirm that construction and equipment meets design specifications.

Therefore, in order to make the regulation more consistent throughout, EPA is proposing to clarify that the requirement to keep process safety information up to date also explicitly applies to Program 3 processes. 40 CFR 68.65 states that ''[t]he owner or operator shall complete a compilation of written process safety information before conducting any process hazard analysis required by the rule.'' Refining the language of 40 CFR 68.65 to reflect existing requirements would clarify that such process safety information is required to be up to date for Program 3 processes—just as for Program 2 processes—without the need for evaluating compliance with management of change, conducting a pre-startup safety review, or meeting PHA requirements.

2. Program 2 and 3 Requirements for Compliance With RAGAGEP

The current RMP regulations outline two different, albeit similar, ways to comply with RAGAGEP. First, the requirement for Program 2 processes at 68.48(b) states: ''The owner or operator shall ensure that the process is designed in compliance with recognized and generally accepted good engineering practices. Compliance with Federal or State regulations that address industry-specific safe design or with industry-specific design codes and standards may be used to demonstrate compliance with this paragraph.'' Second, the requirement for Program 3 processes at 40 CFR 68.65(d)(2) states: ''The owner or operator shall document that equipment complies with recognized and generally accepted good engineering practices.''

EPA is therefore proposing to harmonize these two provisions so that the requirements are identical. EPA has found that the distinction between ''ensure'' for Program 2 processes and ''document'' for Program 3 processes creates confusion. Additionally, the language for Program 3 refers to ''equipment,'' while the language of Program 2 refers to the ''process.'' Requiring facilities to document compliance, rather than merely ''ensure'' compliance, removes this ambiguity. EPA is also proposing to remove the sentence ''Compliance with Federal or State regulations that address industry-specific safe design or with industry-specific design codes and standards may be used to demonstrate compliance with this paragraph.'' In some cases, Federal or State regulations lag behind current RAGAGEP and thus do not provide the same level of protection. For example, OSHA recognized that OSHA's flammable liquid standard at 49 CFR 1910.106 is not as up to date as NFPA or International Fire Code standards for flammable liquids.[323] EPA therefore proposes to replace both provisions to indicate that the owner or operator shall ensure and document that the process is designed in compliance with RAGAGEP.

3. Retention of Hot Work Permits

The requirement to issue a hot work permit,[324] including documentation of necessary fire protection and prevention measures, is currently in the RMP regulation only for Program 3 processes. Pursuant to 40 CFR 68.85(b), ''The permit shall be kept on file until completion of the hot work operations.''

Under the existing RMP regulations, it can be difficult for implementing agencies to determine if the facility has been conducting hot work in compliance with the requirements of 40 CFR 68.85, unless the facility is conducting hot work at the time of the inspection and has hot work permits on file. Adding a requirement to retain hot work permits after the completion of operations would address this issue.

Therefore, EPA is proposing to require retention of hot work permits for 5 years, in accordance with the recordkeeping requirements in 40 CFR 68.200.[325] Implementing agencies would be able to determine whether: (1) The owner or operator of the facility had any hot work permits, and (2) the hot work permits are in compliance with the documentation requirements of 40 CFR 68.85(b).[326] EPA seeks comment on this proposed hot work provision amendment.

4. Storage Incident to Transportation

Currently, under 40 CFR 68.3, the term ''stationary source'' does not apply to transportation activities, including storage incident to transportation for any regulated substance or any other extremely hazardous substance.[327] A stationary source *does* include transportation containers connected to loading/unloading equipment or used for storage not incident to transportation, but the term ''storage not incident to transportation'' is not defined in the RMP regulations. Preamble language and responses to frequently asked questions posted on the Agency's website clarify that a container is considered to be in transportation as long as it is attached to the motive power (*e.g.,* truck or locomotive) that delivered it to the site.[328] [329] If the tank car is detached

[323] *https://www.osha.gov/laws-regs/standardinterpretations/2001-08-27.*

[324] 40 CFR 68.3: ''Hot work means work involving electric or gas welding, cutting, brazing, or similar flame or spark-producing operations.''

[325] 40 CFR 68.200: ''The owner or operator shall maintain records supporting the implementation of this part at the stationary source for five years, unless otherwise provided in subpart D of this part.''

[326] 40 CFR 68.85(b): ''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; it shall indicate the date(s) authorized for hot work; and identify the object on which hot work is to be performed. The permit shall be kept on file until completion of the hot work operations.''

[327] ''Stationary source'' is defined at 40 CFR 68.3 as follows: ''Stationary source means any buildings, structures, equipment, installations, or substance emitting stationary activities which belong to the same industrial group, which are located on one or more contiguous properties, which are under the control of the same person (or persons under common control), and from which an accidental release may occur. The term stationary source does not apply to transportation, including storage incident to transportation, of any regulated substance or any other extremely hazardous substance under the provisions of this part. A stationary source includes transportation containers used for storage not incident to transportation and transportation containers connected to equipment at a stationary source for loading or unloading. Transportation includes, but is not limited to, transportation subject to oversight or regulation under 49 CFR parts 192, 193, or 195, or a State natural gas or hazardous liquid program for which the State has in effect a certification to DOT under 49 U.S.C. 60105. A stationary source does not include naturally occurring hydrocarbon reservoirs. Properties shall not be considered contiguous solely because of a railroad or pipeline right-of-way.''

[328] EPA, *List of Regulated Substances and Thresholds for Accidental Release Prevention; Amendments,* 40 CFR part 68 (January 6, 1998).

[329] EPA, ''Are Chemicals in a Tank Car Exempt from Threshold Determinations Under 40 CFR part

from the motive power, and therefore no longer in transportation, the contents of the tank car must be considered in the threshold determination.

EPA is proposing additional regulatory language that includes a specified number of hours that a transportation container may be disconnected from the motive power that delivered it to the site before being considered part of the stationary source. EPA believes that this provision would provide clarity for regulated parties and implementing agencies on whether a transportation container used for onsite storage must be incorporated into a facility's risk management plan. EPA is proposing to apply a 48-hour time frame to this term based on the Department of Transportation (DOT), Pipeline and Hazardous Materials Safety Administration, Carriage by Rail regulations at 49 CFR 174.14(a), that indicate rail carriers must forward each shipment of hazardous materials promptly within 48 hours after acceptance or receipt. EPA seeks comment on this 48-hour time frame, suggestions for other appropriate time frames, and any safety concerns that may arise from transportation containers being exempt from the RMP regulations when disconnected for less than 48 hours. The 48 hours would be the total amount of time, such that a railyard could not move a rail car around in the railyard using a mobile railcar mover to start the clock again.

EPA is also proposing to modify the definition of stationary source to further clarify ''storage incident to transportation'' in 40 CFR 68.3 by adding an explanation to the transportation container language in the stationary source definition. The proposed regulatory text would add examples of what a transportation container could be, such as a truck or railcar, and that for RMP purposes, railyards and other stationary sources actively engaged in transloading activities may store regulated substances up to 48 hours total in a disconnected transportation container without counting the regulated substances contained in that transportation container toward the regulatory threshold.

5. Retail Facility Exemption

The current definition of ''retail facility'' at 40 CFR 68.3 is ''a stationary source at which more than one-half of the income is obtained from direct sales to end users or at which more than one-half of the fuel sold, by volume, is sold through a cylinder exchange program.''

The period of sales to end users is unclear; it lacks a definite time frame in which to calculate whether more than one-half of the facility's direct sales are to end users. Specifying a definite period of time would eliminate this uncertainty and allow owners and operators to determine more accurately whether regulated substances in a process are subject to the RMP provisions. It also may reduce the amount of sales documentation that the owner or operator of a regulated facility must provide to establish its status as a retail facility.

EPA is therefore proposing to adjust the regulatory text to clarify that the definition of ''retail facility'' is one in which more than one-half of the ''annual'' income ''in the previous calendar year'' is obtained from direct sales to end users or at which more than one-half of the fuel sold over that period, by volume, is sold through a cylinder exchange program. EPA is proposing one year of sales activity because the Agency believes it captures the seasonality of propane sales at propane distribution facilities. EPA seeks comment on the proposed annual time frame for sales documentation.

6. RAGAGEP

EPA initially looks to the latest version of industry codes, standards, and guidelines to determine whether an owner or operator has documented compliance with RAGAGEP under 40 CFR 68.65(d)(2), given that 40 CFR part 68 does not define the phrase ''recognized and generally accepted good engineering practices.'' EPA believes this application makes sense, because the plain meaning of the phrase is that practices should be ''recognized,'' ''good,'' and ''generally accepted'' and the latest version of RAGAGEP contains industry's most up-to-date assessment of practices that meet these criteria. Also, under the structure of the CAA, stationary sources subject to 40 CFR part 68 are also subject to the GDC in 42 U.S.C. 7412(r)(1).[330] Neither the text nor the legislative history of the GDC mentions locking obsolete industry standards into place. EPA also believes there is no practical reason to have a stricter standard for facilities that are subject to the GDC, but not to 40 CFR part 68.[331] Further, a facility subject to the GDC may have RMP-regulated substances in amounts lower than the RMP regulatory threshold.

To address these concerns, EPA is proposing that the RMP regulations clarify that PHAs must include an analysis of the most recently promulgated RAGAGEP in order to identify any gaps between practices related to the facility's design, maintenance, and operation and the most current version of RAGAGEP.

EPA is also proposing to require owners or operators to specify in their risk management plans why PHA recommendations associated with adopting practices from the most recent version of RAGAGEP are not implemented. EPA is proposing to adopt three of the four rationales identified in section IV.A.1.e of this preamble.[332] EPA is not proposing to adopt the rationale that ''[t]he recommendation is not necessary to protect public receptors,'' because there are many safety measures such as pipe labeling, training, and some standard operating procedures that do not directly affect public receptors, but that can have indirect or secondary effects on responders or public receptors. By allowing owners or operators to screen out recommendations that do not directly affect public receptors, the Agency is concerned that facilities may discount important recommendations. For this provision, the Agency is also proposing to modify the rationale that ''[a]n alternative measure would provide a sufficient level of protection'' by adding that the safety measures adopted in lieu of the ones recommended by the PHA team must be recognized and generally accepted. This will help ensure that facilities do not ignore updated RAGAGEP when making decisions about which PHA recommendations to accept or reject. EPA seeks comment on the proposed rationales for not adopting practices from the most recent version of RAGAGEP.

E. Compliance Dates

The initial 1996 RMP rule was applied 3 years after promulgation of the rule on June 20, 1996, which is consistent with the last sentence of CAA section 112(r)(7)(B)(i). The statute does not directly address when amendments should become applicable. The provisions of this proposal modify terms of the existing rule, and, in some cases,

68?'' last modified September 1, 2021, *https://www.epa.gov/rmp/are-chemicals-tank-car-exempt-threshold-determinations-under-40-cfr-part-68.*

[330] See 40 CFR 68.1.

[331] For example, subjecting facilities with 5,000 lbs. of anhydrous ammonia, which are subject only to the GDC, to higher standards than a facility with 50,000 pounds, which would be subject to 40 CFR part 68.

[332] The four rationales are: 1. The analysis upon which the recommendation is based contains material factual errors. 2. The recommendation is not necessary to protect to protect public receptors. 3. An alternative measure would provide a sufficient level of protection. 4. The recommendation is infeasible.

amplify or clarify existing requirements. Therefore, in modifications to 40 CFR 68.10, EPA is proposing to:

- Require regulated sources to comply with new STAA, incident investigation root cause analysis, third-party compliance audit, employee participation, emergency response public notification and exercise evaluation reports, and information availability provisions, unless otherwise stated, 3 years after the effective date of the final rule (*i.e.,* FR publication date).
- Require regulated sources to comply with the revised emergency response field exercise frequency provision 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 in accordance with 40 CFR 68.96(b)(1)(ii).
- Allow regulated sources 1 additional year (*i.e.,* 4 years after the effective date of the final rule) to update and resubmit risk management plans to reflect new and revised data elements.

For STAA, this means that by 3 years after the effective date of the final rule, the owner or operator of a source with a regulated RMP process involving HF alkylation, or a source with a process in NAICS code 324 or 325, located within 1 mile of another NAICS code 324 or 325 RMP facility process, must have completed or updated their PHA to include an STAA. Recognizing that some facilities may have performed PHAs recently or may be due to perform PHAs shortly after EPA issues a final rule, the Agency seeks comment on a second option for STAA compliance, which would require any stationary source that must perform STAA as part of its PHA to comply with the STAA requirement for PHAs performed after 1 year from the date of the final rule.

For incident investigation root cause analysis, this means that the owner or operator of a source that experiences any RMP-reportable accident more than 3 years after the effective date of the rule must conduct a root cause analysis for their incident investigation of the accident.

For third-party compliance audits, this means that the owner or operator of a source where a second RMP-reportable accident occurs within 5 years—or of a source where one reportable accident in an RMP-regulated process in NAICS code 324 or 325, located within 1 mile of another source's RMP-regulated NAICS code 324 or 325 process, occurs after 3 years of the effective date of the final rule—must obtain a third-party audit for their next required compliance audit.

For employee participation, this means that by 3 years after the effective date of the final rule, the owner or operator of a source must have updated or developed—and begun implementing—an employee participation plan that addresses employee consultation when resolving PHA, compliance audit, and incident investigation recommendations and decisions; stop work authorities; and RMP accident and non-compliance reporting.

For emergency response, the proposed provisions means that by 3 years after the effective date of the final rule, the owner or operator of a non-responding source must have onsite documentation of emergency response public notification procedures. It also means that by 3 years after the effective date of the final rule, owners or operators of non-responding and responding sources must have the means to ensure that a community notification system is in place to warn the public of releases. It also means that for any RMP-reportable accident occurring more than 3 years after the effective date of the final rule, sources must provide appropriate and timely data and information to local responders detailing their current understanding and best estimates of the nature of the release. It also means that by 3 years after the effective date of the rule, emergency exercise evaluation reports must include documentation of specific exercise elements.

For information availability, this means that by 3 years after the effective date of the final rule, the owner or operator must make the required chemical hazard information available to the public upon request and provide notification to the public that the information is available.

EPA is proposing to provide this 3-year phase-in for several reasons. First, the initial 1996 RMP rule required compliance per the statute within 3 years. EPA believes the proposed provisions outlined today are not as extensive as developing a full RMP program. While some may argue that some sources already had an accident prevention program in place due to the OSHA PSM standard, some facilities did not, yet the rule still required development and compliance within 3 years. Therefore, EPA does not believe compliance with these proposed provisions should require a longer time frame than compliance with the initial rule. Second, while EPA believes that for most sources, activities associated with these proposed provisions may reasonably require significant time to complete, the 3-year phase-in is as expeditious as practicable considering the circumstances. For example, the new incident investigation root cause analysis, employee participation, emergency response, and information availability requirements will involve training and program development activities. For the third-party audit provisions, the extended compliance timeframe will allow potential auditors enough time to meet the competency and independence criteria necessary to serve as a third-party auditor. EPA believes that in many cases, sources subject to the STAA provisions will prefer to perform a full PHA update when implementing the STAA requirements. Sources subject to STAA provisions are among the largest and most complex sources regulated under 40 CFR part 68, and therefore, PHAs and PHA updates at these sources typically require a significant level of effort. Since PHA updates are normally done at 5-year intervals, EPA believes it would be appropriate to allow most sources to adopt these provisions in their normal PHA update cycle if they so choose. For the emergency response provisions, evaluating and securing resources for public notification systems and the associated training with local responders will take time to be coordinated. Lastly, EPA intends to publish guidance for certain provisions, such as STAA, incident investigation root cause analysis, third-party audits, employee participation, and emergency response. Once these materials are complete, owners and operators will need time to familiarize themselves with the new materials and incorporate them into their risk management programs.

For field exercises, EPA is proposing to require the owners or operators of sources to have planned, scheduled, and conducted their first field exercise by March 15, 2027. For this provision, EPA is proposing to revert to the original timeframe in the 2017 amendments rule, based on the Agency's view that this change will allow local authorities to set longer time periods to address the major concern that the 2019 reconsideration rule identified with the practicability of the 2017 date, which was the potential inability of local authorities to voluntarily participate in the exercises when they had multiple facilities in their jurisdiction.

EPA is also proposing to provide 1 additional year for owners or operators to update risk management plans to reflect proposed new or revised data elements in subpart G of the regulations. The additional year will allow owners and operators an opportunity to begin to comply with the new or revised regulatory provisions prior to certifying

compliance in the risk management plan. Additionally, the Agency will need to make significant revisions to its online risk management plan submission system, RMP*eSubmit, to accommodate the newly required and revised data elements, and sources will not be able to update risk management plans with new or revised data elements until the submission system is ready. Also, once it is ready, allowing an additional year for sources to update risk management plans will prevent potential problems with thousands of sources submitting updated risk management plans on the same day.

V. Additional Considerations

EPA acknowledges the need for reviewing the list of RMP-regulated substances. Section 112(r)(3) requires periodic review of the RMP regulated substance list. A priority chemical for EPA's upcoming review will be ammonium nitrate. EPA also acknowledges the need for considering expanding fenceline monitoring for RMP-regulated facilities. While EPA is considering both of these issues for a future action, they are beyond the scope of this NPRM. EPA welcomes comment on these issues which are further discussed in the Technical Background Document.[333]

VI. Statutory and Executive Orders Reviews

Additional information about these statutes and Executive Orders can be found at *https://www.epa.gov/laws-regulations/laws-and-executive-orders.*

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is an economically significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review. Any changes made in response to OMB recommendations have been documented in the docket. The EPA prepared a Regulatory Impact Analysis (RIA) of the potential costs and benefits associated with this action. This RIA is available in the docket (Docket ID Number EPA–HQ–OLEM–2022–0174). Chapters 4–6 of the RIA developed for this proposed action provide additional details on costs and benefits.

[333] Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Safer Communities by Chemical Accident Prevention (April 19, 2022).

B. Paperwork Reduction Act (PRA)

The information collection activities in this proposed rule will be submitted for approval to the OMB under the PRA. The Information Collection Request (ICR) document that the EPA prepared has been assigned EPA ICR number 2725.01. A copy of the ICR is available in the docket for this rule, and it is briefly summarized here.

This new ICR adds new information collection activities related to a previously approved ICR (1656.18), OMB Control No. 2050–0144. That ICR covers the Risk Management Program rule, originally promulgated on June 20, 1996; and the current rule, including previous amendments, codified as 40 CFR part 68. This ICR addresses the proposed information requirements that are part of the proposed revision to the rule.

EPA believes that the Risk Management Program regulations have been effective in preventing and mitigating chemical accidents in the United States. However, EPA believes that revisions could further protect human health and the environment from chemical hazards through advancement of process safety management based on lessons learned. These revisions are a result of review of the existing Risk Management Program and information gathered from the 2021 listening sessions. State and local authorities will use the information in RMPs to modify and enhance their community response plans. The agencies implementing the RMP rule will use RMPs to evaluate compliance with part 68 and to identify sources for inspection because they may pose significant risks to the community. Citizens may use the information to assess and address chemical hazards in their communities and to respond appropriately in the event of a release of a regulated substance. These revisions are a result of a review of the existing Risk Management Program and are proposed under the statutory authority provided by section 112(r) of the CAA as amended (42 U.S.C. 7412(r)).

Respondents/affected entities: The industries that are likely to be affected by the requirements in the proposed regulation fall into numerous NAICS codes. The types of stationary sources affected by the proposed rule range from petroleum refineries and large chemical manufacturers to 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 other sources that use RMP-regulated substances. Among the stationary sources potentially affected, the Agency has determined that 2,911 are regulated private sector small entities and 630 are small government entities.

Respondent's obligation to respond: Mandatory ((CAA sections 112(r)(7)(B)(i) and (ii), CAA section 112(r)(7)(B)(iii), 114(c), CAA 114(a)(1))).

Estimated number of respondents: 14,226.

Frequency of response: On occasion.

Total estimated burden: 797,642 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $79,248,522 (per year); includes $2,817,907 annual operations and maintenance costs and $78,400 annual capital costs.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9.

Submit comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden to the EPA using the docket identified at the beginning of this rule. The EPA will respond to any ICR-related comments in the final rule. You may also send your ICR-related comments to OMB's Office of Information and Regulatory Affairs using the interface at *www.reginfo.gov/public/do/PRAMain.* Find this particular information collection by selecting ''Currently under Review—Open for Public Comments'' or by using the search function. OMB must receive comments no later than October 31, 2022.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. The small entities subject to the requirements of this action include small businesses and small governmental entities. The Agency has determined that among the 2,911 potentially regulated private sector small entities so impacted, 2,822, or 96.9 percent, may experience an impact of less than one percent with an average small entity cost of $10,618; and 84, or 2.9 percent, may experience an impact of between one and three percent of revenues with an average small cost entity of $108,921. The industry sectors of Farm Product Warehousing and Storage, and All Other

Miscellaneous Chemical Product and Preparations Manufacturing had the most entities potentially affected between one and three percent of revenues, with 5 and 6 entities, respectively. For detailed costs by provision and NAICS code see Chapter 8 of the RIA.

Among the 630 small government entities potentially affected, 488, or 77 percent would incur costs of less than $1,000; 109, or 17 percent costs ranging from $1,000 to $2,000; 18, or 3 percent costs ranging from $2,000 to $3,000; and only one would incur costs greater than $10,000, and EPA estimated that for the rule to have a larger than one percent impact on this entity, it would need to have revenue of less than $103 per resident.

EPA solicits comment on the number of small entities affected and the estimated cost impacts on small entities. Details of these analyses are presented in Chapter 8 of the proposed rule RIA, available in the docket.

D. Unfunded Mandates Reform Act (UMRA)

This action does not include any Federal mandate that may result in the expenditure by State, local, and Tribal governments, in the aggregate, or by the private sector, of $100 million or more (adjusted for inflation) in any one year and does not significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531–1538).

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action has Tribal implications. However, it will neither impose substantial direct compliance costs on federally recognized Tribal governments, nor preempt Tribal law. There are approximately 260 RMP facilities located on Tribal lands. Tribes could be impacted by the final rule either as an owner or operator of an RMP-regulated facility or as a Tribal government when the Tribal government conducts emergency response or emergency preparedness activities under EPCRA.

EPA consulted with Tribal officials under the EPA Policy on Consultation and Coordination with Indian Tribes on previous RMP rulemakings. EPA will consult again with Tribal officials as it develops this regulation to permit them to have meaningful and timely input into its development. Consultation will include conference calls, webinars, and meetings with interested Tribal representatives to ensure that their concerns are addressed before the rule is finalized. In the spirit of E.O. 13175 and consistent with EPA policy to promote communications between EPA and Tribal governments, EPA specifically solicits comment on this proposed rule from Tribal officials.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

This action is not subject to E.O. 13045 because EPA does not believe the environmental health risks or safety risks addressed by this action present a disproportionate risk to children. This action's health and risk assessments are contained in the Chapter 9 of the RIA for this rule, available in the docket.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not a ''significant energy action'' because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. This action is not anticipated to have notable impacts on emissions, costs or energy supply decisions for the affected electric utility industry.

I. National Technology Transfer and Advancement Act (NTTAA)

This rulemaking does not involve technical standards.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

EPA believes that this action does not have disproportionately high and adverse human health or environmental effects on minority populations, low-income populations and/or indigenous peoples, as specified in E.O. 12898 (59 FR 7629, February 16, 1994). To the extent that populations living closer to facilities are more likely to be exposed if an accidental release at an RMP facility occurs, these releases pose a greater risk to these key demographic groups. Therefore, the benefits of this regulation would reduce risk for historically underserved and overburdened populations.

E.O. 12898 directs Federal agencies, to the greatest extent practicable and permitted by law, to make EJ part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority populations and low-income populations in the United States. The consideration of EJ into EPA rulemaking is guided by two EPA documents: (1) ''Technical Guidance for Assessing Environmental Justice in Regulatory Analysis'' [334] and (2) ''Guidance on Considering Environmental Justice During the Development of Regulatory Action.'' [335] The first of these documents [336] establishes the expectation that analysts conduct the highest quality EJ analysis feasible in support of rulemakings, recognizing that what is possible will be context specific. One method recommended by the guidance documents includes screening for potential EJ concerns by identifying the proximity of regulated sources to historically underserved and overburdened communities. E.O. 12898 places a responsibility on Federal agencies for ''identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States.''

EPA conducted an EJ analysis using the Agency's EJ screening tool, EJSCREEN.[337] The EJ analysis shows that historically underserved and overburdened populations live within proximity to those facilities (and thus at greater risk) than other populations. The analysis also found evidence that included facilities are disproportionately located within historically underserved and overburdened communities. Thus, EPA recognizes that accidental releases of regulated chemicals from facilities regulated by this action would likely pose disproportionate risks to historically marginalized communities. However, EPA has concluded that the regulatory requirements will advance

[334] EPA. (2016). Technical Guidance for Assessing Environmental Justice in Regulatory Analysis. *https://www.epa.gov/sites/production/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf.*

[335] EPA. (2018). Guidance on Considering Environmental Justice During the Development of Regulatory Actions. *https://www.epa.gov/sites/default/files/2015-06/documents/considering-ej-in-rulemaking-guide-final.pdf.*

[336] EPA. (2016). Technical Guidance for Assessing Environmental Justice in Regulatory Analysis. *https://www.epa.gov/sites/production/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf.*

[337] *https://www.epa.gov/ejscreen.*

fair treatment of those populations by reducing the disproportionate damages from accidental releases from RMP-regulated facilities might otherwise inflict on those populations. EPA's full EJ analysis is documented in the RIA, which is available in the docket for this action.

List of Subjects in 40 CFR Part 68

Environmental protection, Administrative practice and procedure, Air pollution control, Chemicals, Hazardous substances, Intergovernmental relations, Reporting and recordkeeping requirements.

Michael S. Regan,

Administrator.

For the reasons stated in the preamble, Title 40, chapter I, part 68, of the Code of Federal Regulations is proposed to be amended as follows:

PART 68—CHEMICAL ACCIDENT PREVENTION PROVISIONS

■ 1. The authority citation for part 68 continues to read as follows:

Authority: 42 U.S.C. 7412(r), 7601(a)(1), 7661–7661f.

■ 2. Amend § 68.3 by

■ a. Adding in alphabetical order definitions for ''Active measures,'' ''Inherently safer technology or design'', ''Natural hazard'', ''Passive measures'', ''Practicability'', and ''Procedural measures'';

■ b. Revising the definition of ''Retail facility'';

■ c. Adding in alphabetical order a definition for ''Root cause'';

■ d. Revising the definition of ''Stationary source''; and

■ e. Adding in alphabetical order a definition for ''Third-party audit''.

The additions and revisions read as follows:

§ 68.3 Definitions.

* * * * *

Active measures mean risk management measures or engineering controls that rely on mechanical, or other energy input to detect and respond to process deviations. Examples of active measures include alarms, safety instrumented systems, and detection hardware (such as hydrocarbon sensors).

* * * * *

Inherently safer technology or design means risk management measures that minimize the use of regulated substances, substitute less hazardous substances, moderate the use of regulated substances, or simplify covered processes in order to make accidental releases less likely, or the impacts of such releases less severe.

* * * * *

Natural hazard means naturally occurring events that have the potential for negative impact including meteorological or geologic hazards. Meteorological hazards include those that naturally occur due to the weather cycle or climatic cycles, and include flooding, temperature extremes, snow/ice storms, wildfire, tornado, tropical cyclones, hurricanes, storm surge, wind, lightening, hailstorms, drought, etc. Geologic hazards are those occurring due to the movement of the earth and the internal earth forces, and include seismic events, earthquakes, landslides, tsunami, volcanic eruptions, and dam rupture.

* * * * *

Passive measures mean risk management measures that use design features that reduce either the frequency or consequence of the hazard without human, mechanical, or other energy input. Examples of passive measures include pressure vessel designs, dikes, berms, and blast walls.

* * * * *

Practicability means the capability of being successfully accomplished within a reasonable time, accounting for environmental, legal, social, technological and economic factors. Environmental factors would include consideration of potential transferred risks for new risk reduction measures.

Procedural measures mean risk management measures such as policies, operating procedures, training, administrative controls, and emergency response actions to prevent or minimize incidents.

* * * * *

Retail facility means a stationary source at which more than one-half of the annual income (in the previous calendar year) is obtained from direct sales to end users or at which more than one-half of the fuel sold, by volume, is sold through a cylinder exchange program.

* * * * *

Root cause means a fundamental, underlying, system-related reason why an incident occurred.

* * * * *

Stationary source means any buildings, structures, equipment, installations, or substance-emitting stationary activities which belong to the same industrial group, which are located on one or more contiguous properties, which are under the control of the same person (or persons under common control), and from which an accidental release may occur. The term stationary source does not apply to transportation, including storage incident to transportation, of any regulated substance or any other extremely hazardous substance under the provisions of this part. A stationary source includes transportation containers used for storage not incident to transportation and transportation containers connected to equipment at a stationary source for loading or unloading. A transportation container is in storage incident to transportation as long as it is attached to the motive power that delivered it to the site (*e.g.,* a truck or locomotive); however, railyards and other stationary sources actively engaged in transloading activities may store regulated substances up to 48 hours total in a disconnected transportation container without counting the regulated substances contained in that transportation container toward the regulatory threshold. Transportation includes, but is not limited to, transportation subject to oversight or regulation under 49 CFR part 192, 193, or 195, or a State natural gas or hazardous liquid program for which the State has in effect a certification to DOT under 49 U.S.C. 60105. A stationary source does not include naturally occurring hydrocarbon reservoirs. Properties shall not be considered contiguous solely because of a railroad or pipeline right-of-way.

Third-party audit means a compliance audit conducted pursuant to the requirements of § 68.59 and/or § 68.80, performed or led by an entity (individual or firm) meeting the competency and independence requirements described in § 68.59(c) or § 68.80(c).

* * * * *

■ 3. Amend § 68.10 by:

■ a. Revising paragraph (a);

■ b. Redesignating paragraphs (g) through (k) as paragraphs (j) through (n); and

■ c. Adding new paragraphs (g) through (i).

The revisions and additions read as follows:

§ 68.10 Applicability.

(a) Except as provided in paragraphs (b) through (i) of this section, an owner or operator of a stationary source that has more than a threshold quantity of a regulated substance in a process, as determined under § 68.115, shall comply with the requirements of this part no later than the latest of the following dates:

(1) June 21, 1999;

(2) Three years after the date on which a regulated substance is first listed under § 68.130;

(3) The date on which a regulated substance is first present above a threshold quantity in a process; or

(4) For any revisions to this part, the effective date of the final rule.

* * * * *

(g) By [DATE 3 YEARS AFTER EFFECTIVE DATE OF FINAL RULE], the owner or operator shall comply with the following provisions promulgated on [EFFECTIVE DATE OF FINAL RULE]:

(1) Third-party audit provisions in §§ 68.58(f) through (h), 68.59, 68.79(f) through (h), and 68.80;

(2) Incident investigation root cause analysis provisions in §§ 68.60(d)(7) and 68.81(d)(7);

(3) Safer technology and alternatives analysis provisions in § 68.67(c)(8);

(4) Employee participation provisions in §§ 68.62(d)(7) and 68.82(d)(7);

(5) Emergency response provisions in §§ 68.90(b) and 68.95(a).

(6) Availability of information provisions in § 68.210(d) through (f).

(h) 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 in accordance with § 68.96(b)(1)(ii).

(i) By [DATE 4 YEARS AFTER EFFECTIVE DATE OF FINAL RULE], the owner or operator shall comply with the risk management plan provisions of subpart G of this part promulgated on [EFFECTIVE DATE OF FINAL RULUE].

Subpart C—Program 2 Prevention Program

■ 4. Amend § 68.48 by revising paragraph (b) to read as follows:

§ 68.48 Safety information.

* * * * *

(b) The owner or operator shall ensure and document that the process is designed in compliance with recognized and generally accepted good engineering practices.

* * * * *

■ 5. Amend § 68.50 by revising paragraph (a)(3) and adding paragraphs (a)(5) and (6) to read as follows:

§ 68.50 Hazard review.

(a) * * *

(3) The safeguards used or needed to control the hazards or prevent equipment malfunction or human error including standby or emergency power systems;

* * * * *

(5) External events such as natural hazards, including those caused by climate change or other triggering events that could lead to an accidental release; and

(6) Stationary source siting, including the placement of processes, equipment, buildings within the facility, and hazards posed by proximate facilities, and accidental release consequences posed by proximity to the public and public receptors.

* * * * *

■ 6. Amend § 68.58 by revising paragraph (a) and adding paragraphs (f) through (h) to read as follows:

§ 68.58 Compliance audits.

(a) The owner or operator shall certify that they have evaluated compliance with the provisions of this subpart for each covered process, at least every three years to verify that the procedures and practices developed under this subpart are adequate and are being followed. When required as set forth in paragraph (f) of this section, the compliance audit shall be a third-party audit.

* * * * *

(f) *Third-party audit applicability.* The next required compliance audit shall be a third-party audit when one of the following conditions applies:

(1) Two accidental releases within five years meeting the criteria in § 68.42(a) from a covered process at a stationary source have occurred; or

(2) One accidental release within five years meeting the criteria in § 68.42(a) from a covered process at a stationary source in NAICS code 324 or 325, located within 1 mile of another stationary source having a process in NAICS code 324 or 325, has occurred; or

(3) 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 § 68.59(c).

(g) *Implementing agency notification and appeals.* (1) If an implementing agency makes a preliminary determination that a third-party audit is necessary pursuant to paragraph (f)(3) of this section, the implementing agency will provide written notice to the owner or operator that describes the basis for this determination.

(2) Within 30 days of receipt of such written notice, the owner or operator may provide information and data to, and may consult with, the implementing agency on the determination. Thereafter, the implementing agency will provide a final determination to the owner or operator.

(3) If the final determination requires a third-party audit, the owner or operator shall comply with the requirements of § 68.59, pursuant to the schedule in paragraph (h) of this section.

(4) *Appeals.* The owner or operator may appeal a final determination made by an implementing agency under paragraph (g)(3) of this section within 30 days of receipt of the final determination. The appeal shall be made to the EPA Regional Administrator or, for determinations made by other implementing agencies, the administrator or director of such implementing agency. The appeal shall contain a clear and concise statement of the issues, facts in the case, and any relevant additional information. In reviewing the appeal, the implementing agency may request additional information from the owner or operator. The implementing agency will provide a written, final decision on the appeal to the owner or operator.

(h) *Schedule for conducting a third-party audit.* The audit and audit report shall be completed as follows, unless a different timeframe is specified by the implementing agency:

(1) For third-party audits required pursuant to paragraph (f)(1) of this section, within 12 months of the second of two releases within five years; or

(2) For third-party audits required pursuant to paragraph (f)(2) of this section, within 12 months of the release; or

(3) For third-party audits required pursuant to paragraph (f)(3) of this section, within 12 months of the date of the final determination pursuant to paragraph (g)(3) of this section. However, if the final determination is appealed pursuant to paragraph (g)(4) of this section, within 12 months of the date of the final decision on the appeal.

■ 7. Section 68.59 is added to read as follows:

§ 68.59 Third-party audits.

(a) *Applicability.* The owner or operator shall engage a third party to conduct an audit that evaluates compliance with the provisions of this subpart in accordance with the requirements of this section when any criterion of § 68.58(f) is met.

(b) *Third-party auditors and auditing teams.* The owner or operator shall either:

(1) Engage a third-party auditor meeting all of the competency and independence criteria in paragraph (c) of this section; or

(2) Assemble an auditing team, led by a third-party auditor meeting all of the competency and independence criteria in paragraph (c) of this section. The team may include:

(i) Other employees of the third-party auditor firm meeting the independence criteria of paragraph (c)(2) of this section; and

(ii) Other personnel not employed by the third-party auditor firm, including facility personnel.

(c) *Third-party auditor qualifications.* The owner or operator shall determine and document that the third-party auditor(s) meet the following competency and independence requirements:

(1) *Competency requirements.* The third-party auditor(s) shall be:

(i) Knowledgeable with the requirements of this part;

(ii) Experienced with the stationary source type and processes being audited and applicable recognized and generally accepted good engineering practices; and

(iii) Trained and/or certified in proper auditing techniques.

(2) *Independence requirements.* The third-party auditor(s) shall:

(i) Act impartially when performing all activities under this section;

(ii) Receive no financial benefit from the outcome of the audit, apart from payment for auditing services. For purposes of this paragraph, retired employees who otherwise satisfy the third-party auditor independence criteria in this section may qualify as independent if their sole continuing financial attachments to the owner or operator are employer-financed or managed retirement and/or health plans;

(iii) Ensure that all third-party personnel involved in the audit sign and date a conflict of interest statement documenting that they meet the independence criteria of this paragraph (c)(2); and

(iv) Ensure that all third-party personnel involved in the audit do not accept future employment with the owner or operator of the stationary source for a period of at least two years following submission of the final audit report. For purposes of this requirement, employment does not include performing or participating in third-party audits pursuant to § 68.59 or § 68.80.

(3) The auditor shall have written policies and procedures to ensure that all personnel comply with the competency and independence requirements of this section.

(d) *Third-party auditor responsibilities.* The owner or operator shall ensure that the third-party auditor:

(1) Manages the audit and participates in audit initiation, design, implementation, and reporting;

(2) Determines appropriate roles and responsibilities for the audit team members based on the qualifications of each team member;

(3) Prepares the audit report and where there is a team, documents the full audit team's views in the final audit report;

(4) Certifies the final audit report and its contents as meeting the requirements of this section; and

(5) Provides a copy of the audit report to the owner or operator.

(e) *Audit report.* The audit report shall:

(1) Identify all persons participating on the audit team, including names, titles, employers and/or affiliations, and summaries of qualifications. For third-party auditors, include information demonstrating that the competency requirements in paragraph (c)(1) of this section are met;

(2) Describe or incorporate by reference the policies and procedures required under paragraph (c)(3) of this section;

(3) Document the auditor's evaluation, for each covered process, of the owner or operator's compliance with the provisions of this subpart to determine whether the procedures and practices developed by the owner or operator under this rule are adequate and being followed;

(4) Document the findings of the audit, including any identified compliance or performance deficiencies;

(5) Summarize any significant revisions (if any) between draft and final versions of the report; and

(6) Include the following certification, signed and dated by the third-party auditor or third-party audit team member leading the audit:

''I certify that this RMP compliance audit report was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information upon which the audit is based. I further certify that the audit was conducted and this report was prepared pursuant to the requirements of subpart C of 40 CFR part 68 and all other applicable auditing, competency, independence, impartiality, and conflict of interest standards and protocols. Based on my personal knowledge and experience, and inquiry of personnel involved in the audit, the information submitted herein is true, accurate, and complete.''

(f) *Third-party audit findings*—(1) *Findings response report.* As soon as possible, but no later than 90 days after receiving the final audit report, the owner or operator shall determine an appropriate response to each of the findings in the audit report, and develop a findings response report that includes:

(i) A copy of the final audit report;

(ii) An appropriate response to each of the audit report findings;

(iii) A schedule for promptly addressing deficiencies; and

(iv) A certification, signed and dated by a senior corporate officer, or an official in an equivalent position, of the owner or operator of the stationary source, stating:

''I certify under penalty of law that I have engaged a third party to perform or lead an audit team to conduct a third-party audit in accordance with the requirements of 40 CFR 68.59 and that the attached RMP compliance audit report was received, reviewed, and responded to under my direction or supervision by qualified personnel. I further certify that appropriate responses to the findings have been identified and deficiencies were corrected, or are being corrected, consistent with the requirements of subpart C of 40 CFR part 68, as documented herein. Based on my personal knowledge and experience, or inquiry of personnel involved in evaluating the report findings and determining appropriate responses to the findings, the information submitted herein is true, accurate, and complete. I am aware that there are significant penalties for making false material statements, representations, or certifications, including the possibility of fines and imprisonment for knowing violations.''

(2) *Schedule implementation.* The owner or operator shall implement the schedule to address deficiencies identified in the audit findings response report in paragraph (f)(1)(iii) of this section and document the action taken to address each deficiency, along with the date completed.

(3) *Submission to Board of Directors.* The owner or operator shall immediately provide a copy of each document required under paragraphs (f)(1) and (2) of this section, when completed, to the owner or operator's audit committee of the Board of Directors, or other comparable committee or individual, if applicable.

(g) *Recordkeeping.* The owner or operator shall retain at the stationary source, the two most recent final third-party audit reports, related findings response reports, documentation of actions taken to address deficiencies, and related records. This requirement does not apply to any document that is more than five years old.

■ 8. Amend § 68.60 by adding paragraph (h) to read as follows:

§ 68.60 Incident investigation.

* * * * *

(h) The owner or operator shall ensure the following are addressed when the incident in § 68.60(a) meets the accident history reporting requirements under § 68.42:

(1) The report shall be completed within 12 months of the incident, unless the implementing agency approves, in writing, to an extension of time.

(2) The report in paragraph (d) of this section shall include factors that contributed to the incident including the initiating event, direct and indirect contributing factors, and root causes. Root causes shall be determined by conducting an analysis for each incident using a recognized method.

■ 9. Section 68.62 is added to subpart C to read as follows:

§ 68.62 Employee participation.

(a) The owner or operator shall develop a written plan of action regarding the implementation of the employee participation required by this section.

(b) The owner or operator shall develop and implement a process to allow employees and their representatives to anonymously report unaddressed hazards that could lead to a catastrophic release, unreported RMP-reportable accidents, or any other noncompliance with this part.

(c) The owner or operator shall provide to employees and their representatives access to hazard reviews and to all other information required to be developed under this rule.

Subpart D—Program 3 Prevention Program

■ 10. Amend § 68.65 by revising paragraphs (a) and (d)(2) to read as follows:

§ 68.65 Process safety information.

(a) The owner or operator shall complete a compilation of written process safety information before conducting any process hazard analysis required by the rule and shall keep process safety information up to date. The compilation of written process safety information is to enable the owner or operator and the employees involved in operating the process to identify and understand the hazards posed by those processes involving regulated substances. This process safety information shall include information pertaining to the hazards of the regulated substances used or produced by the process, information pertaining to the technology of the process, and information pertaining to the equipment in the process.

* * * * *

(d) * * *

(2) The owner or operator shall ensure and document that the process is designed and maintained in compliance with recognized and generally accepted good engineering practices.

* * * * *

■ 11. Amend § 68.67 by revising paragraphs (c)(3) and (5) and adding paragraph (c)(8) through (10) to read as follows:

§ 68.67 Process hazard analysis.

* * * * *

(c) * * *

(3) Engineering and administrative controls applicable to the hazards and their interrelationships such as appropriate application of detection methodologies to provide early warning of releases and standby or emergency power systems.

* * * * *

(5) Stationary source siting, including the placement of processes, equipment, and buildings within the facility, hazards posed by proximate facilities, and potential accidental release consequences to nearby public and environmental receptors;

* * * * *

(8) External events such as natural hazards, including those caused by climate change or other triggering events that could lead to an accidental release;

(9) For processes in NAICS codes 324 and 325, located within 1 mile of another stationary source having a process in NAICS codes 324 or 325 and for processes in NAICS 324 with hydrofluoric acid alkylation processes, safer technology and alternative risk management measures applicable to eliminating or reducing risk from process hazards.

(i) The owner or operator shall consider and document, in the following order of preference inherently safer technology or design, passive measures, active measures, and procedural measures. A combination of risk management measures may be used to achieve the desired risk reduction.

(ii) The owner or operator shall determine and document the practicability of the inherently safer technologies and designs considered. The owner or operator shall include in documentation any methods used to determine practicability. For any inherently safer technologies and designs implemented, the owner or operator shall document and submit to EPA a description of the technology implemented.

(iii) The analysis shall be performed by a team that includes members with expertise in the process being evaluated, including at least one member who works in the process. The team members shall be documented.

(10) 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.

* * * * *

■ 12. Amend § 68.79 by revising paragraph (a) and adding paragraphs (f) through (h) to read as follows:

§ 68.79 Compliance audits.

(a) The owner or operator shall certify that they have evaluated compliance with the provisions of this subpart for each covered process, at least every three years to verify that the procedures and practices developed under the subpart are adequate and are being followed. When required as set forth in paragraph (f) of this section, the compliance audit shall be a third-party audit.

* * * * *

(f) *Third-party audit applicability.* The next required compliance audit shall be a third-party audit when one or more of the following conditions applies:

(1) Two accidental releases within five years meeting the criteria in § 68.42(a) from a covered process at a stationary source has occurred; or

(2) One accidental release within five years meeting the criteria in § 68.42(a) from a covered process at a stationary source in NAICS code 324 or 325, located within 1 mile of another stationary source having a process in NAICS code 324 or 325; or

(3) 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).

(g) *Implementing agency notification and appeals.* (1) If an implementing agency makes a preliminary determination that a third-party audit is necessary pursuant to paragraph (f)(3) of this section, the implementing agency will provide written notice to the owner or operator that describes the basis for this determination.

(2) Within 30 days of receipt of such written notice, the owner or operator may provide information and data to, and may consult with, the implementing agency on the determination. Thereafter, the implementing agency will provide a final determination to the owner or operator.

(3) If the final determination requires a third-party audit, the owner or operator shall comply with the requirements of § 68.80, pursuant to the schedule in paragraph (h) of this section.

(4) *Appeals.* The owner or operator may appeal a final determination made by an implementing agency under paragraph (g)(3) of this section within 30 days of receipt of the final determination. The appeal shall be made to the EPA Regional Administrator or, for determinations made by other implementing agencies, the administrator or director of such implementing agency. The appeal shall contain a clear and concise statement of the issues, facts in the case, and any relevant additional information. In reviewing the appeal, the implementing agency may request additional information from the owner or operator. The implementing agency will provide a written, final decision on the appeal to the owner or operator.

(h) *Schedule for conducting a third-party audit.* The audit and audit report shall be completed as follows, unless a different timeframe is specified by the implementing agency:

(1) For third-party audits required pursuant to paragraph (f)(1) of this section, within 12 months of the second of two releases within five years; or

(2) For third-party audits required pursuant to paragraph (f)(2) of this section, within 12 months of the release; or

(3) For third-party audits required pursuant to paragraph (f)(3) of this section, within 12 months of the date of the final determination pursuant to paragraph (g)(3) of this section. However, if the final determination is appealed pursuant to paragraph (g)(4) of this section, within 12 months of the date of the final decision on the appeal.

■ 13. Section 68.80 is added to read as follows:

§ 68.80 Third-party audits.

(a) *Applicability.* The owner or operator shall engage a third party to conduct an audit that evaluates compliance with the provisions of this subpart in accordance with the requirements of this section when any criterion of § 68.79(f) is met.

(b) *Third-party auditors and auditing teams.* The owner or operator shall either:

(1) Engage a third-party auditor meeting all of the competency and independence criteria in paragraph (c) of this section; or

(2) Assemble an auditing team, led by a third-party auditor meeting all of the competency and independence criteria in paragraph (c) of this section. The team may include:

(i) Other employees of the third-party auditor firm meeting the independence criteria of paragraph (c)(2) of this section; and

(ii) Other personnel not employed by the third-party auditor firm, including facility personnel.

(c) *Third-party auditor qualifications.* The owner or operator shall determine and document that the third-party auditor(s) meet the following competency and independence requirements:

(1) *Competency requirements.* The third-party auditor(s) shall be:

(i) Knowledgeable with the requirements of this part;

(ii) Experienced with the stationary source type and processes being audited and applicable recognized and generally accepted good engineering practices; and

(iii) Trained and/or certified in proper auditing techniques.

(2) *Independence requirements.* The third-party auditor(s) shall:

(i) Act impartially when performing all activities under this section;

(ii) Receive no financial benefit from the outcome of the audit, apart from payment for auditing services. For purposes of this paragraph, retired employees who otherwise satisfy the third-party auditor independence criteria in this section may qualify as independent if their sole continuing financial attachments to the owner or operator are employer-financed or managed retirement and/or health plans;

(iii) Ensure that all third-party personnel involved in the audit sign and date a conflict of interest statement documenting that they meet the independence criteria of this paragraph (c)(2); and

(iv) Ensure that all third-party personnel involved in the audit do not accept future employment with the owner or operator of the stationary source for a period of at least two years following submission of the final audit report. For purposes of this requirement, employment does not include performing or participating in third-party audits pursuant to § 68.59 or this section.

(3) The auditor shall have written policies and procedures to ensure that all personnel comply with the competency and independence requirements of this section.

(d) *Third-party auditor responsibilities.* The owner or operator shall ensure that the third-party auditor:

(1) Manages the audit and participates in audit initiation, design, implementation, and reporting;

(2) Determines appropriate roles and responsibilities for the audit team members based on the qualifications of each team member;

(3) Prepares the audit report and where there is a team, documents the full audit team's views in the final audit report;

(4) Certifies the final audit report and its contents as meeting the requirements of this section; and

(5) Provides a copy of the audit report to the owner or operator.

(e) *Audit report.* The audit report shall:

(1) Identify all persons participating on the audit team, including names, titles, employers and/or affiliations, and summaries of qualifications. For third-party auditors, include information demonstrating that the competency requirements in paragraph (c)(1) of this section are met;

(2) Describe or incorporate by reference the policies and procedures required under paragraph (c)(3) of this section;

(3) Document the auditor's evaluation, for each covered process, of the owner or operator's compliance with the provisions of this subpart to determine whether the procedures and practices developed by the owner or operator under this rule are adequate and being followed;

(4) Document the findings of the audit, including any identified compliance or performance deficiencies;

(5) Summarize any significant revisions (if any) between draft and final versions of the report; and

(6) Include the following certification, signed and dated by the third-party auditor or third-party audit team member leading the audit:

> ''I certify that this RMP compliance audit report was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information upon which the audit is based. I further certify that the audit was conducted and this report was prepared pursuant to the requirements of subpart D of 40 CFR part 68 and all other applicable auditing, competency, independence, impartiality, and conflict of interest standards and protocols. Based on my personal knowledge and experience, and inquiry of personnel involved in the audit, the information submitted herein is true, accurate, and complete.''

(f) *Third-party audit findings*—(1) *Findings response report.* As soon as possible, but no later than 90 days after receiving the final audit report, the owner or operator shall determine an

appropriate response to each of the findings in the audit report, and develop a findings response report that includes:

(i) A copy of the final audit report;

(ii) An appropriate response to each of the audit report findings;

(iii) A schedule for promptly addressing deficiencies; and

(iv) A certification, signed and dated by a senior corporate officer, or an official in an equivalent position, of the owner or operator of the stationary source, stating:

''I certify under penalty of law that I have engaged a third party to perform or lead an audit team to conduct a third-party audit in accordance with the requirements of 40 CFR 68.80 and that the attached RMP compliance audit report was received, reviewed, and responded to under my direction or supervision by qualified personnel. I further certify that appropriate responses to the findings have been identified and deficiencies were corrected, or are being corrected, consistent with the requirements of subpart D of 40 CFR part 68, as documented herein. Based on my personal knowledge and experience, or inquiry of personnel involved in evaluating the report findings and determining appropriate responses to the findings, the information submitted herein is true, accurate, and complete. I am aware that there are significant penalties for making false material statements, representations, or certifications, including the possibility of fines and imprisonment for knowing violations.''

(2) *Schedule implementation.* The owner or operator shall implement the schedule to address deficiencies identified in the audit findings response report in paragraph (f)(1)(iii) of this section and document the action taken to address each deficiency, along with the date completed.

(3) *Submission to Board of Directors.* The owner or operator shall immediately provide a copy of each document required under paragraphs (f)(1) and (2) of this section, when completed, to the owner or operator's audit committee of the Board of Directors, or other comparable committee or individual, if applicable.

(g) *Recordkeeping.* The owner or operator shall retain at the stationary source the two most recent final third-party audit reports, related findings response reports, documentation of actions taken to address deficiencies, and related records.

■ 14. Amend § 68.81 by adding paragraph (h) to read as follows:

§ 68.81 Incident investigation.

* * * * *

(h) The owner or operator shall ensure the following are addressed when the incident in § 68.81(a) meets the accident history reporting requirements under § 68.42:

(1) The report shall be completed within 12 months of the incident, unless the implementing agency approves, in writing, an extension of time.

(2) The report in paragraph (d) of this section shall include factors that contributed to the incident including the initiating event, direct and indirect contributing factors, and root causes. Root causes shall be determined by conducting an analysis for each incident using a recognized method.

■ 15. Revise § 68.83 to read as follows:

§ 68.83 Employee participation.

(a) The owner or operator shall develop a written plan of action regarding the implementation of the employee participation required by this section.

(b) The owner or operator shall consult with employees and their representatives on the conduct and development of process hazards analyses, and on the development of the other elements of process safety management in this rule.

(c) The owner or operator shall consult with employees and their representatives on addressing, correcting, resolving, documenting, and implementing recommendations and findings of process hazard analyses under § 68.67(e), compliance audits under § 68.79(d), and incident investigations under § 68.81(e).

(d) The owner or operator shall provide the following authorities to employees and their representatives, and document and respond, in writing within 30 days of the authority being exercised:

(1) Refuse to perform a task when doing so could reasonably result in a catastrophic release.

(2) Recommend to the operator in charge of a unit that an operation or process be partially or completely shut down, in accordance with procedures established in § 68.69(a), based on the potential for a catastrophic release.

(3) Allow a qualified operator in charge of a unit to partially or completely shut down an operation or process, in accordance with procedures established in § 68.69(a), based on the potential for a catastrophic release.

(e) The owner or operator shall develop and implement a process to allow employees and their representatives to anonymously report unaddressed hazards that could lead to a catastrophic release, unreported RMP-reportable accidents, or any other noncompliance with this part.

(f) The owner or operator shall provide to employees and their representatives access to process hazard analyses and to all other information required to be developed under this rule.

■ 16. Revise § 68.85 by revising paragraph (b) and adding paragraph (c) to read as follows:

§ 68.85 Hot work permit.

* * * * *

(b) 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; it shall indicate the date(s) authorized for hot work; and identify the object on which hot work is to be performed.

(c) The permit shall be retained for five years after the completion of the hot work operations.

Subpart E—Emergency Response

■ 17. Amend § 68.90 by revising paragraphs (b)(1) and (3) and adding paragraph (b)(6) to read as follows:

§ 68.90 Applicability.

* * * * *

(b) * * *

(1) For stationary sources with any regulated toxic substance held in a process above the threshold quantity, the stationary source is included in the community emergency response plan developed under 42 U.S.C. 11003. The community emergency response plan should include the following components: identification of facilities within the emergency planning district, identification of routes likely to be used for the transportation of substances on the list of extremely hazardous substances, and identification of additional facilities contributing or subjected to additional risk due to their proximity to facilities, such as hospitals or natural gas facilities; methods and procedures to be followed by facility owners and operators and local emergency and medical personnel to respond to any release of such substances; designation of a community emergency coordinator and facility emergency coordinators, who shall make determinations necessary to implement the plan; procedures providing reliable, effective, and timely notification by the facility emergency coordinators and the community emergency coordinator to persons designated in the emergency plan, and to the public, that a release has occurred; methods for determining the occurrence of a release, and the area or population likely to be affected by such release; description of emergency equipment and facilities in the community and at each facility in the community, and an identification of the persons responsible for such equipment

and facilities; evacuation plans, including provisions for a precautionary evacuation and alternative traffic routes; training programs, including schedules for training of local emergency response and medical personnel; and methods and schedules for exercising the emergency plan.

* * * * *

(3) Appropriate mechanisms are in place to notify emergency responders when there is a need for a response, including providing timely data and information detailing the current understanding and best estimates of the nature of the release.

* * * * *

(6) The owner or operator maintains and implements, as necessary, procedures for informing the public and the appropriate Federal, State, and local emergency response agencies about accidental releases of RMP-regulated substances and ensure that a community notification system is in place to warn the public within the area potentially threatened by the release.

■ 18. Amend § 68.95 by revising paragraphs (a)(1)(i) and (c) to read as follows:

§ 68.95 Emergency response program.

(a) * * *

(1) * * *

(i) Procedures for informing the public and the appropriate Federal, State, and local emergency response agencies about accidental releases, including assurance that a community notification system is in place to warn the public within the area threatened by the release;

* * * * *

(c) The emergency response plan developed under paragraph (a)(1) of this section shall include providing timely data and information detailing the current understanding and best estimates of the nature of the release when a release occurs and be coordinated with the community emergency response plan developed under 42 U.S.C. 11003. The community emergency response plan should include identification of facilities within the emergency planning district, identification of routes likely to be used for the transportation of substances on the list of extremely hazardous substances, and identification of additional facilities contributing or subjected to additional risk due to their proximity to facilities, such as hospitals or natural gas facilities; methods and procedures to be followed by facility owners and operators and local emergency and medical personnel to respond to any release of such substances; designation of a community emergency coordinator and facility emergency coordinators, who shall make determinations necessary to implement the plan; procedures providing reliable, effective, and timely notification by the facility emergency coordinators and the community emergency coordinator to persons designated in the emergency plan, and to the public, that a release has occurred; methods for determining the occurrence of a release, and the area or population likely to be affected by such release; description of emergency equipment and facilities in the community and at each facility in the community, as well as an identification of the persons responsible for such equipment and facilities; evacuation plans, including provisions for a precautionary evacuation and alternative traffic routes; training programs, including schedules for training of local emergency response and medical personnel; and methods and schedules for exercising the emergency plan. Upon request of the LEPC or emergency response officials, the owner or operator shall promptly provide to the local emergency response officials information necessary for developing and implementing the community emergency response plan.

■ 19. Amend § 68.96 by revising paragraphs (b)(1)(i) and (b)(3) to read as follows:

§ 68.96 Emergency response exercises.

* * * * *

(b) * * *

(1) * * *

(i) As part of coordination with local emergency response officials required by § 68.93, the owner or operator shall conduct a field exercise at least once every 10 years unless the appropriate Federal, State, and local emergency response agencies agree in writing that such frequency is impractical. If emergency response agencies so agree, the owner or operator shall consult with emergency response officials to establish an alternate appropriate frequency for field exercises.

* * * * *

(3) *Documentation.* The owner or operator shall prepare an evaluation report within 90 days of each field and tabletop exercise. The report shall include a description of the exercise scenario, names and organizations of each participant, an evaluation of the exercise results including lessons learned, recommendations for improvement or revisions to the emergency response exercise program and emergency response program, and a schedule to promptly address and resolve recommendations.

* * * * *

Subpart G—Risk Management Plan

■ 20. Amend § 68.160 by adding paragraph (b)(22) to read as follows:

§ 68.160 Registration.

* * * * *

(b) * * *

(22) Method of communication and location of the notification that chemical hazard information is available to the public residing within 6 miles of the stationary source, pursuant to § 68.210(d).

■ 21. Amend § 68.170 by adding paragraph (e)(7) revising paragraph (i) to read as follows:

§ 68.170 Prevention program/Program 2.

* * * * *

(e) * * *

(7) Recommendations declined from natural hazard, power loss, and siting hazard evaluations and justifications.

* * * * *

(i) The date of the most recent compliance audit; the expected date of completion of any changes resulting from the compliance audit and identification of whether the most recent compliance audit was a third-party audit, pursuant to §§ 68.58 and 68.59; and findings declined from third-party compliance audits and justifications.

* * * * *

■ 22. Amend § 68.175 by adding paragraphs (e)(7) through (9) and revising paragraph (k) to read as follows:

§ 68.175 Prevention program/Program 3.

* * * * *

(e) * * *

(7) Inherently safer technology or design measures implemented since the last PHA, if any, and the technology category (substitution, minimization, simplification and/or moderation).

(8) Recommendations declined from natural hazard, power loss, and siting hazard evaluations and justifications.

(9) Recommendations declined from safety gaps between codes, standards, or practices to which the process was designed and constructed and the most current version of applicable codes, standards, or practices.

* * * * *

(k) The date of the most recent compliance audit; the expected date of completion of any changes resulting from the compliance audit; and identification of whether the most recent compliance audit was a third-

party audit, pursuant to §§ 68.79 and 68.80.

* * * * *

Subpart H—Other Requirements

■ 23. Amend § 68.210 by adding paragraphs (d) through (f) to read as follows:

§ 68.210 Availability of information to the public.

* * * * *

(d) *Chemical hazard information.* The owner or operator of a stationary source shall provide, upon request by any member of the public residing within 6 miles of the stationary source, the following chemical hazard information for all regulated processes in the language requested, as applicable:

(1) *Regulated substances information.* Names of regulated substances held in a process;

(2) Safety Data Sheets (SDSs). SDSs for all regulated substances located at the facility;

(3) *Accident history information.* Provide the five-year accident history information required to be reported under § 68.42;

(4) *Emergency response program.* The following summary information concerning the stationary source's compliance with § 68.10(f)(3) and the emergency response provisions of subpart E as applicable:

(i) Whether the stationary source is a responding stationary source or a non-responding stationary source;

(ii) Name and phone number of local emergency response organizations with which the owner or operator last coordinated emergency response efforts, pursuant to § 68.180; and

(iii) For stationary sources subject to § 68.95, procedures for informing the public and local emergency response agencies about accidental releases;

(5) *Exercises.* A list of scheduled exercises required under § 68.96; and

(6) *LEPC contact information.* Include LEPC name, phone number, and web address as available.

(e) *Notification of availability of information.* The owner or operator shall provide ongoing notification on a company website, social media platforms, or through other publicly accessible means that:

(1) Information specified in paragraph (d) of this section is available to the public residing within 6 miles of the stationary source upon request. The notification shall:

(i) Specify the information elements, identified in paragraph (b) of this section, that can be requested; and

(ii) Provide instructions for how to request the information (*e.g.,* email, mailing address, and/or telephone or website request);

(2) Identify where to access information on community preparedness, if available, including shelter-in-place and evacuation procedures.

(f) *Timeframe to provide requested information.* The owner or operator shall provide the requested information under paragraph (d) of this section within 45 days of receiving a request.

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