



FEDERAL REGISTER

Vol. 81

Monday,

No. 49

March 14, 2016

Part VI

Environmental Protection Agency

40 CFR Part 68

Accidental Release Prevention Requirements: Risk Management Programs
Under the Clean Air Act; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY**40 CFR Part 68**

[EPA-HQ-OEM-2015-0725; FRL-9940-94-OLEM]

RIN 2050-AG82

Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act**AGENCY:** Environmental Protection Agency (EPA).**ACTION:** Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA), in response to Executive Order 13650, is proposing to amend its Risk Management Program regulations. The proposed revisions include several changes to the accident prevention program requirements including an additional analysis of safer technology and alternatives for the process hazard analysis for some Program 3 processes, third-party audits and incident investigation root cause analysis for Program 2 and Program 3 processes, enhancements to the emergency preparedness requirements, increased public availability of chemical hazard information, and several other changes to certain regulatory definitions and data elements submitted in risk management plans. These proposed amendments seek to improve chemical process safety, assist local emergency authorities in planning for and responding to accidents, and improve public awareness of chemical hazards at regulated sources.

DATES:

Comments. Comments and additional material must be received on or before May 13, 2016. Under the Paperwork Reduction Act (PRA), comments on the information collection provisions are best assured of consideration if the Office of Management and Budget (OMB) receives a copy of your comments on or before April 13, 2016.

Public Hearing. The EPA will hold a public hearing on this proposed rule on March 29, 2016 in Washington, DC.

ADDRESSES: Comments. Submit comments and additional materials, identified by docket EPA-HQ-OEM-2015-0725 to the Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business

Information (CBI) 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. The EPA will generally not consider comments or comment contents located outside of 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 CBI or multimedia submissions, and general guidance on making effective comments, please visit <http://www2.epa.gov/dockets/commenting-epa-dockets>.

Public Hearing. A public hearing will be held in Washington, DC on March 29, 2016 at William J. Clinton East Building, Room 1153 (Map Room), 1201 Constitution Ave. NW., Washington, DC 20460. The hearing will convene at 9:00 a.m. through 8:00 p.m. The sessions will run from 9:00 a.m. to 12:00 Noon, with a break between 12:00 Noon and 1:00 p.m., continuing from 1:00 p.m. to 4:30 p.m., with a break from 4:30 to 5:30 p.m., and continuing from 5:30 p.m. to 8:00 p.m. Persons wishing to preregister may be assigned a time according to this schedule. The evening session beginning at 5:30 p.m. will be extended one hour after all scheduled comments have been heard to accommodate those wishing to make a comment as a walk-in registrant. Please register at <https://rmp-proposed-rule.eventbrite.com> to speak at the hearing. The last day to preregister in advance to speak at the hearing is March 24, 2016. Additionally, requests to speak will be taken the day of the hearing at the hearing registration desk, although preferences on speaking times may not be able to be fulfilled. If you require the service of a translator or special accommodations such as audio description, we ask that you pre-register for the hearing, on or before March 21, 2016, to allow sufficient time to arrange such accommodations.

The hearing will provide interested parties the opportunity to present data, views or arguments concerning the proposed action. The EPA will make every effort to accommodate all speakers who arrive and register. Because this hearing is being held at U.S. government facilities, individuals planning to attend the hearing should be prepared to show valid picture identification to the security staff in order to gain access to the meeting room. Please note that the REAL ID Act, passed by Congress in 2005, established new requirements for entering federal facilities. If your driver's license is issued by Alaska,

American Samoa, Arizona, Kentucky, Louisiana, Maine, Massachusetts, Minnesota, Montana, New York, Oklahoma or the state of Washington, you must present an additional form of identification to enter the federal building. Acceptable alternative forms of identification include: Federal employee badges, passports, enhanced driver's licenses and military identification cards. In addition, you will need to obtain a property pass for any personal belongings you bring with you. Upon leaving the building, you will be required to return this property pass to the security desk. No large signs will be allowed in the building, cameras may only be used outside of the building and demonstrations will not be allowed on federal property for security reasons.

The 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 hearing. Verbatim transcripts of the hearing and written statements will be included in the docket for the rulemaking. The EPA will make every effort to follow the schedule as closely as possible on the day of the hearing; however, please plan for the hearing to run either ahead of schedule or behind schedule.

FOR FURTHER INFORMATION CONTACT:

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Electronic copies of this Notice of Proposed Rulemaking (NPRM) and related news releases are available on EPA's Web site at <http://www.epa.gov/rmp>. Copies of this NPRM are also available at <http://www.regulations.gov>.

SUPPLEMENTARY INFORMATION: Acronyms and Abbreviations. We use 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:

ACC American Chemistry Council

- ACUS Administrative Conference of the United States
- AFPM American Fuel & Petrochemical Manufacturers
- AMWA Association of Metropolitan Water Agencies
- AN ammonium nitrate
- ANSI American National Standards Institute
- API American Petroleum Institute
- ASTM American Society for Testing and Materials
- AUC Allied Universal Corp
- AWWA American Water Works Association
- AXPC American Exploration & Production Council
- BSEE Bureau of Safety and Environmental Enforcement
- BTMU Bank of Tokyo Mitsubishi
- CAA Clean Air Act
- CAAA Clean Air Act Amendments
- CARB California Air Resources Board
- CAS Chemical Abstracts Service
- CBI confidential business information
- CCHS Contra Costa County Health Services
- CCPS Center for Chemical Process Safety
- CEM European Committee for Standardization
- CFATS Chemical Facility Anti-Terrorism Standards
- CFR Code of Federal Regulations
- CGA Compressed Gas Association
- CI Chlorine Institute
- CO₂ Carbon dioxide
- COS Center for Offshore Safety
- CPCD Coalition to Prevent Chemical Disasters
- CPSC Consumer Product Safety Commission
- CRA Corn Refiners Association
- CSAG Chemical Safety Advocacy Group
- CSB Chemical Safety and Hazard Investigation Board
- CSD Center for Science and Democracy
- CSISSFRA Chemical Safety Information, Site Security and Fuels Regulatory Relief Act
- DHS Department of Homeland Security
- DOI Department of the Interior
- EPA Environmental Protection Agency
- EPCRA Emergency Planning & Community Right-To-Know Act
- FCC Federal Communications Commission
- FDA Food and Drug Administration
- FEMA Federal Emergency Management Agency
- FOIA Freedom of Information Act
- FPC Formosa Plastics Corporation
- FR Federal Register
- FRP facility response plan
- GHG greenhouse gas
- GHS Globally Harmonized System of Classification and Labelling of Chemicals
- GPA Gas Processors Association
- HAZOP hazard and operability study
- HF hydrofluoric acid
- IPAA Independent Petroleum Association of America
- ISD inherently safer design
- ISO industrial safety ordinance
- ISOM isomerization
- ISS inherently safer strategies
- IST inherently safer technology
- LEPC local emergency planning committee
- LPG liquefied petroleum gas
- MACT maximum achievable control technology
- MIC methyl isocyanate
- MKOPSC Mary Kay O'Connor Process Safety Center
- MOC management of change
- NACD National Association of Chemical Distributors
- NAICS North American Industrial Classification System
- NAM National Association of Manufacturers
- NAS National Academy of Sciences
- NASTTPO National Association of SARA Title III Program Officials
- NIST National Institute of Standards and Technology
- NJDEP New Jersey Department of Environmental Protection
- NOFA National Oilseed Processors Association
- NPRM Notice of Proposed Rulemaking
- NRC Nuclear Regulatory Commission
- NSPS New Source Performance Standards
- NTTAA National Technology Transfer Advancement Act
- NYDFS New York State Department of Financial Services
- OCA offsite consequences analysis
- OCS outer continental shelf
- OHMERC Oklahoma Hazardous Materials Emergency Response Commission
- OMB Office of Management and Budget
- OSHA Occupational Safety and Health Administration
- PCAOB Public Company Accounting Oversight Board
- PE professional engineer
- PHA process hazard analysis
- PRA Paperwork Reduction Act
- PREP preparedness for response exercise program
- PSI process safety information
- PSM process safety management
- PSSAP Process Safety Site Assessment Program
- PVC polyvinyl chloride
- PwC PricewaterhouseCoopers
- RAGAGEP recognized and generally accepted good engineering practices
- RCRA Resource Conservation and Recovery Act
- RFA Regulatory Flexibility Act
- RFI request for information
- RMP Risk Management Plan
- SARA Superfund Amendments and Reauthorization Act
- SBAR Small Business Advocacy Review
- SBREFA Small Business Regulatory Enforcement Fairness Act
- SDS safety data sheet
- SDWA Safe Drinking Water Act
- SEC Securities and Exchange Commission
- SEMS Safety and Environmental Management Systems
- SER small entity representative
- SERC state emergency response commission
- SOCMA Society of Chemical Manufacturers and Affiliates
- SOP standard operating procedure
- STAA safer technology and alternatives analysis
- TCPA Toxic Catastrophe Prevention Act
- TEPC tribal emergency planning committees
- TERC tribal emergency response commission
- TPA Texas Pipeline Association
- TQ threshold quantity
- TSCA Toxic Substances Control Act
- UMRA Unfunded Mandates Reform Act
- USCG United States Coast Guard
- UST underground storage tank
- USW United Steel Workers
- VCM vinyl chloride monomer
- VCS voluntary census standards

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I. General Information

A. Executive Summary

1. Purpose of the Regulatory Action

The purpose of this action is to improve safety at facilities that use and distribute hazardous chemicals. In response to catastrophic chemical facility incidents in the United States, including the explosion that occurred at the West Fertilizer facility in West, Texas, on April 17, 2013 that killed 15 people, President Obama issued Executive Order 13650, "Improving Chemical Facility Safety and Security," on August 1, 2013.¹

Section 6(a)(i) of Executive Order 13650 requires that various Federal agencies develop options for improved chemical facility safety and security that identify "improvements to existing risk management practices through agency programs, private sector initiatives, Government guidance, outreach, standards, and regulations." One agency program presently in existence is the Risk Management Program implemented by EPA under section 112(r) of the Clean Air Act (42 U.S.C. 7412(r)). Section 6(c) of Executive Order 13650 requires the Administrator of EPA to review the chemical hazards covered by the Risk Management Program and expand, implement and enforce the Risk Management Program to address any additional hazards. As part of this effort to solicit comments and information from the public regarding potential changes to EPA's Risk Management Program regulations (40 CFR part 68), on July 31, 2014, EPA published a "Request for Information" notice or "RFI" (79 FR 44604).

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 a review of the existing Risk Management Program and information gathered from the RFI and Executive Order listening sessions.

2. Summary of the Major Provisions of the Regulatory Action

This action proposes to amend EPA's Risk Management Program regulations at 40 CFR part 68. These regulations

apply to stationary sources (also referred to as "facilities") that hold specific "regulated substances" in excess of threshold quantities. These facilities are required to assess their potential release impacts, undertake steps to prevent releases, plan for emergency response to releases, and summarize this information in a risk management plan (RMP) submitted to EPA. The release prevention steps vary depending on the type of process, but progressively gain specificity and rigor over three program levels (*i.e.*, Program 1, Program 2, and Program 3).

The major provisions of this proposed rule include several changes to the accident prevention program requirements, as well as enhancements to the emergency response requirements, and improvements to the public availability of chemical hazard information. Each of these proposed revisions is introduced in the following paragraphs of this section and described in greater detail in sections IV through VI, later in this document.

Certain proposed provisions would apply to a subset of the processes based on program levels described in 40 CFR part 68 (or in one case, to a subset of processes within a program level). A full description of these program levels is provided in section II of this document.

a. Accident Prevention Program Revisions

This action proposes three changes to the accident prevention program requirements. First, the proposed rule would require all facilities with Program 2 or 3 processes to conduct a root cause analysis as part of an incident investigation of a catastrophic release or an incident that could have reasonably resulted in a catastrophic release (*i.e.*, a near-miss). This provision is intended to reduce the number of chemical accidents by requiring facilities to identify the underlying causes of an incident so that they may be addressed. Identifying the root causes, rather than isolating and correcting solely the immediate cause of the incident, will help prevent similar incidents at other locations, and will yield the maximum benefit or lessons learned from the incident investigation.

Second, the proposed rule would require regulated facilities with Program 2 or 3 processes to contract with an independent third-party to perform a compliance audit after the facility has a reportable release. Compliance audits are required under the existing rule, but are allowed to be self-audits (*i.e.*, performed by the owner or operator of the regulated facility). This provision is intended to reduce the risk of future

accidents by requiring an objective auditing process to determine whether the owner or operator of the facility is effectively complying with the accident prevention procedures and practices required under 40 CFR part 68.

The third proposed revision to the prevention program would add an element to the process hazard analysis (PHA), which is updated every five years. Specifically, owners or operators of facilities with Program 3 regulated processes in North American Industrial Classification System (NAICS) codes 322 (paper manufacturing), 324 (petroleum and coal products manufacturing), and 325 (chemical manufacturing) would be required to conduct a safer technology and alternatives analysis (STAA) as part of their PHA, and to evaluate the feasibility of any inherently safer technology (IST) identified. The current PHA requirements include consideration of active, passive, and procedural measures to control hazards. The proposed modernization effort continues to support the analysis of those measures and adds consideration of IST alternatives. The proposed provision is 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. Data compiled from RMPs suggest processes in these NAICS codes have a disproportionate share of reportable releases.

At this time, EPA is not proposing any additional requirements either for location of stationary sources (related to their proximity to public receptors) or emergency shutdown systems. However, EPA seeks comment on whether such requirements should be considered for future rulemakings, including the scope of such requirements, or whether the Agency should publish guidance.

b. Emergency Response Enhancements

This action also proposes to enhance the rule's emergency response requirements. Owners or operators of all facilities with Program 2 or 3 processes would be required to coordinate with the local emergency response agencies at least once a year to ensure that resources and capabilities are in place to respond to an accidental release of a regulated substance. As a result of improved coordination between facility owners and operators and local emergency response officials, EPA believes that some facilities that are currently designated as non-responding facilities may become responding

¹ For more information on the Executive Order see <https://www.whitehouse.gov/the-press-office/2013/08/01/executive-order-improving-chemical-facility-safety-and-security>.

facilities (*i.e.*, develop an emergency response program in accordance with § 68.95).

Additionally, all facilities with Program 2 or 3 processes would be required to conduct notification exercises annually to ensure that their emergency contact information is accurate and complete. This provision is intended to reduce the impact of accidents by ensuring that appropriate mechanisms and processes are in place to notify local responders when an accident occurs. One of the factors that can contribute to the severity of chemical accidents is a lack of effective coordination between a facility and local emergency responders. Increasing such coordination and establishing appropriate emergency response procedures can help reduce the effects of accidents.

This action also proposes to require that all facilities subject to the emergency response program requirements of subpart E of the rule (or “responding facilities”) conduct a full field exercise at least once every five years and one tabletop exercise annually in the other years. Responding facilities that have an RMP reportable accident would also have to conduct a full field exercise within a year of the accident. The purpose of this provision is to reduce the impact of accidents by ensuring that emergency response personnel understand their roles in the event of an incident, that local responders are familiar with the hazards at a facility, and that the emergency response plan is up-to-date. Improved

coordination with emergency response personnel will better prepare responders to respond effectively to an incident and take steps to notify the community of appropriate actions, such as shelter-in-place or evacuation.

c. Enhanced Availability of Information

This action proposes various enhancements to the public availability of chemical hazard information. The proposed rule would require all facilities to provide certain basic information to the public through easily accessible means such as a facility Web site. If no Web site exists, the owner or operator may provide the information at public libraries or government offices, or use other means appropriate for particular locations and facilities. In addition, a subset of facilities would be required, upon request, to provide the Local Emergency Planning Committee (LEPC), Tribal Emergency Planning Committee (TEPC)² or other local emergency response agencies with summaries related to: Their activities on compliance audits (facilities with Program 2 and Program 3 processes); emergency response exercises (facilities with Program 2 and Program 3 processes); accident history and investigation reports (all facilities that have had RMP reportable accidents); and any ISTs implemented at the facility (a subset of Program 3 processes). The proposed rule would also require all facilities to hold a public meeting for the local community within a specified timeframe after an RMP reportable accident. This provision will

ensure that first responders and members of the community have easier access to appropriate facility chemical hazard information, which can significantly improve emergency preparedness and their understanding of how the facility is addressing potential risks.

In addition to the major provisions described previously in this section, this action proposes revisions to clarify or simplify the RMP submission. These changes are intended to reduce the compliance burden on facilities and increase their understanding of the RMP requirements. We are also proposing technical corrections to various provisions of the rule.

3. Costs and Benefits

a. Summary of Potential Costs

Approximately 12,500 facilities have filed current RMPs with EPA and are potentially affected by the proposed rule changes. 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.

Table 1 presents the number of facilities according to the latest RMP reporting as of February 2015 by industrial sector and chemical use.

TABLE 1—NUMBER OF AFFECTED FACILITIES BY SECTOR

Sector	NAICS codes	Total facilities	Chemical uses
Administration of environmental quality programs (<i>i.e.</i> , governments).	924	1,923	Use chlorine and other chemicals for treatment.
Agricultural chemical distributors/wholesalers ..	111, 112, 115, 42491	3,667	Store ammonia for sale; some in NAICS 111 and 115 use ammonia as a refrigerant.
Chemical manufacturing	325	1,466	Manufacture, process, store.
Chemical wholesalers	4246	333	Store for sale.
Food and beverage manufacturing	311, 312	1,476	Use—mostly ammonia as a refrigerant.
Oil and gas extraction	211	741	Intermediate processing (mostly regulated flammable substances and flammable mixtures).
Other	44, 45, 48, 54, 56, 61, 72	248	Use chemicals for wastewater treatment, refrigeration, store chemicals for sale.
Other manufacturing	313, 326, 327, 33	384	Use various chemicals in manufacturing process, waste treatment.
Other wholesale	423, 424	302	Use (mostly ammonia as a refrigerant).
Paper manufacturing	322	70	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	276	Store for sale (mostly regulated flammable substances and flammable mixtures).

²Note for the purposes of this document the term TEPC can be substituted for LEPC, as appropriate.

TABLE 1—NUMBER OF AFFECTED FACILITIES BY SECTOR—Continued

Sector	NAICS codes	Total facilities	Chemical uses
Utilities	221 (except 22131, 22132) ...	343	Use chlorine (mostly for water treatment).
Warehousing and storage	493	1,056	Use mostly ammonia as a refrigerant.
Water/wastewater Treatment Systems	22131, 22132	102	Use chlorine and other chemicals.
Total .....	.....	12,542	

Table 2 presents a summary of the annualized costs estimated in the regulatory impact analysis.³ In total,

EPA estimates annualized costs of \$158.3 million at a 3% discount rate

and \$161.0 million at a 7% discount rate.

TABLE 2—SUMMARY OF ANNUALIZED COSTS
[Millions, 2014 dollars]

Provision	3 (percent)	7 (percent)
Third-party Audits	\$5.0	\$5.0
Incident Investigation/Root Cause	0.8	0.8
STAA	34.8	34.8
Coordination	6.3	6.3
New Responders*	33.0	35.6
Notification Exercises	1.4	1.4
Facility Exercises	60.7	60.7
Information Sharing (LEPC)	11.7	11.7
Information Sharing (Public)	4.0	4.0
Public Meeting	0.4	0.4
Rule Familiarization	0.3	0.3
Total Cost +	158.3	161.0

* Reflects costs for some facilities to convert from “non-responding” to “responding” as a result of improved coordination with local emergency response officials.

+ Totals may not sum due to rounding.

The largest average annual cost of the proposed rule is the exercise costs for current responders (\$60.7 million), followed by new responders (facilities that will comply with the emergency response program requirements of \$68.95 as a result of local coordination activities or receiving a written request from the facility’s LEPC) (\$35.6 million), STAA (\$34.8 million), and information sharing (LEPC) (\$11.7 million). The remaining provisions impose average annual costs under \$10 million each, including coordination (\$6.3 million), third-party audits (\$5.0 million), information sharing (public) (\$4.0

million), notification exercises (\$1.4 million), incident investigation/root cause analysis (\$0.8 million), public meetings (\$0.4 million), and rule familiarization (\$0.3 million).

b. Summary of Potential Benefits

EPA anticipates that promulgation and implementation of this rule would result in a reduction of the frequency and magnitude of damages from releases. Accidents and releases from RMP facilities occur every year, causing fires and explosions; damage to property; acute and chronic exposures of workers and nearby residents to

hazardous materials, and resulting in serious injuries and death. Although we are unable to quantify what specific reductions may occur as a result of these proposed revisions, we are able to present data on the total damages that currently occur at RMP facilities each year. The data presented is based on a 10-year baseline period, summarizing RMP accident impacts and, when possible, monetizing 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
[2014 dollars]

	Unit value	10-Year total	Average/year	Average/accident
On-site				
Fatalities	\$8,583,113	\$497,820,554	\$49,782,055	\$328,161
Injuries	50,000	105,150,000	10,515,000	69,314
Property Damage .....	.....	2,054,895,236	205,489,524	1,354,578

³ A full description of costs and benefits for this proposed rule can be found in the *Regulatory Impact Analysis for Proposed Revisions to the*

Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, Section 112(r)(7). This document is available in the

docket for this rulemaking (Docket ID Number EPA-HQ-OEM-2015-0725).

TABLE 3—SUMMARY OF QUANTIFIED DAMAGES—Continued
[2014 dollars]

	Unit value	10-Year total	Average/ year	Average/ accident
On-site Total .....	.....	2,657,865,790	265,786,579	1,752,053
Offsite				
Fatalities	\$8,583,113	\$8,583,113	\$858,311	\$5,658
Hospitalizations	36,000	6,804,000	680,400	4,485
Medical Treatment	1,000	14,807,000	1,480,700	9,761
Evacuations	181	6,992,327	699,233	4,609
Sheltering in Place	91	40,920,849	4,092,085	26,975
Property Damage .....	.....	11,352,105	1,135,211	7,483
Offsite Total .....	.....	89,459,394	8,945,939	58,971
Total .....	.....	2,747,325,184	274,732,518	1,811,024

EPA monetized both on-site and offsite damages. EPA estimated total average annual on-site damages of \$265.8 million. The largest monetized average annual on-site damage was on-site property damage, which resulted in average annual damage of approximately \$205.5 million. The next largest impact was on-site fatalities (\$49.8 million) and injuries (\$10.5 million).

EPA estimated total average annual offsite damages of \$8.9 million. The largest monetized average annual offsite damage was from sheltering in place (\$4.1 million), followed by medical treatment (\$1.5 million), property damage (\$1.1 million), fatalities (\$0.9 million), evacuations (\$0.7 million), and hospitalizations (\$0.7 million).

In total, EPA estimated monetized damages from RMP facility accidents of \$275 million per year. However, the monetized impacts omit many important categories of accident impacts including lost productivity, the costs of emergency response, transaction costs, property value impacts in the surrounding community (that overlap with other benefit categories), and environmental impacts. Also not reflected in the 10-year baseline costs are the impacts of non-RMP accidents at RMP facilities and any potential impacts of rare high consequence catastrophes. A final omission is related to the information provision. Reducing the probability of chemical accidents and the severity of their impacts, and improving information disclosure by chemical facilities, as the proposed

provisions intend, would provide benefits to potentially affected members of society.

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 also highlights and explains the information disclosure benefit category and identifies two specific benefits associated with it: Improved efficiency of property markets and allocation of emergency resources.

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	<ul style="list-style-type: none"> • Reduced Fatalities. • Reduced Injuries. • Reduced Property Damage. • Fewer People Sheltered in Place. • Fewer Evacuations. • Avoided Lost Productivity. • Avoided Emergency Response Costs. • Avoided Transaction Costs. • Avoided Property Value Impacts.* • Avoided Environmental Impacts. • Improved efficiency of property markets. • Improved resource allocation.
Accident Mitigation	Mitigation of future RMP facility accidents	
Non-RMP accident prevention and mitigation	Prevention and mitigation of future non-RMP accidents at RMP facilities	
Avoided Catastrophes	Prevention of rare but extremely high consequence events.	
Information Disclosure	Provision of information to the public and LEPCs.	

* These impacts partially overlap with several other categories such as reduced health and environmental impacts.

B. Does this action apply to me?

This rule applies to those facilities (referred to as “stationary sources” under the 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. Table 5 below provides industrial sectors and the associated NAICS codes for entities potentially affected by this action. The Agency’s goal is to provide a guide for readers to consider regarding entities that potentially could be affected by this

action. However, this action may affect other entities not listed in this table. If you have questions regarding the applicability of this action to a particular entity, consult the person(s) listed in the introductory section of this action under the heading entitled **FOR FURTHER INFORMATION CONTACT.**

TABLE 5—INDUSTRIAL SECTORS AND ASSOCIATED NAICS CODES FOR ENTITIES POTENTIALLY AFFECTED BY PROPOSED ACTION

Sector	NAICS Code
Administration of Environmental Quality Programs	924.
Agricultural Chemical Distributors:	
Animal Production and Aquaculture	112.
Crop Production	111.
Farm Supplies Merchant Wholesalers	42491.
Support Activities for Agriculture and Forestry	115.
Beverage Manufacturing	3121.
Food Manufacturing	311.
Chemical and Allied Products Merchant Wholesalers	4246.
Chemical Manufacturing	325.
Oil and Gas Extraction	211.
Other ⁴	313, 326, 327, 33, 44, 45, 48, 54, 56, 61, 72.
Other Wholesale:	
Merchant Wholesalers, Durable Goods	423.
Merchant Wholesalers, Nondurable Goods	424.
Paper Manufacturing	322.
Petroleum and Coal Products Manufacturing	324.
Petroleum and Petroleum Products Merchant Wholesalers	4247.
Utilities	221 (except 22131 and 22132 described below).
Warehousing and Storage	493.
Water/Wastewater Treatment Systems:	
Sewage Treatment Facilities	22132.
Water Supply and Irrigation Systems	22131.

II. Background

Recent catastrophic chemical facility incidents in the United States prompted President Obama to issue Executive Order 13650, “Improving Chemical Facility Safety and Security,” on August 1, 2013.⁵ The purpose of the Executive Order is to enhance the safety and security of chemical facilities and reduce risks associated with hazardous chemicals to owners and operators, workers, and communities. The Executive Order establishes the Chemical Facility Safety and Security Working Group (“Working Group”), co-chaired by the Secretary of Homeland Security, the Administrator of EPA, and the Secretary of Labor or their designated representatives at the Assistant Secretary level or higher, and composed of senior representatives of other Federal departments, agencies, and offices. The Executive Order requires the Working Group to carry out a number of tasks whose overall aim is to prevent chemical accidents, such as the explosion that occurred at the West Fertilizer facility in West, Texas, on April 17, 2013.⁶ In addition to the tragedy at the West Fertilizer facility, a number of other incidents have

demonstrated a significant risk to the safety of American workers and communities. On March 23, 2005, explosions at the BP Refinery in Texas City, Texas, killed 15 people and injured more than 170 people.⁷ On April 2, 2010, an explosion and fire at the Tesoro Refinery in Anacortes, Washington, killed seven people.⁸ On August 6, 2012, at the Chevron Refinery in Richmond, California, a fire involving flammable fluids endangered 19 Chevron employees and created a large plume of highly hazardous chemicals that traveled across the Richmond, California, area.⁹ Nearly 15,000 residents sought medical treatment due to the release. On June 13, 2013, a fire and explosion at Williams Olefins in Geismar, Louisiana, killed two people and injured many more.¹⁰

Section 6 of the Executive Order is entitled “Policy, Regulation, and Standards Modernization.” This section, among other things, requires certain Federal agencies to consider possible changes to existing chemical safety and security regulations. To solicit comments and information from the public regarding potential changes to EPA’s Risk Management Program regulations (40 CFR part 68), on July 31, 2014, EPA published an RFI (79 FR 44604). Information collected through the RFI has informed this proposal. Readers are encouraged to review the RFI, as this action will not reiterate the full discussion of all of its topics.

EPA received a total of 579 public comments on the RFI. Several public comments were the result of various mass mail campaigns and contained numerous copies of letters or petition signatures. Approximately 99,710 letters and signatures were contained in these several comments. Discussion of RFI public comments pertaining to topics included in this proposal can be found below in section IV. Prevention Program Requirements, section V. Emergency Response Preparedness Requirements and section VI. Information Availability Requirements.

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.

⁴ For descriptions of NAICS codes, see <http://www.census.gov/cgi-bin/sssd/naics/naicsrch>.

⁵ For more information on the Executive Order see <https://www.whitehouse.gov/the-press-office/2013/08/01/executive-order-improving-chemical-facility-safety-and-security>.

⁶ CSB, January 2016. Final Investigation Report, West Fertilizer Company Fire and Explosion, West, TX, April 17, 2013. REPORT 2013-02-I-TX. <http://www.csb.gov/west-fertilizer-explosion-and-fire/>.

⁷ U.S. Chemical Safety and Hazard Investigation Board (CSB). March 2007. Investigation Report: Refinery Explosion and Fire, BP, Texas City, Texas, March 23, 2005. Report No. 2005-04-I-TX. <http://www.csb.gov/assets/1/19/CSBFinalReportBP.pdf>.

⁸ CSB. May 2014. Investigation Report: Catastrophic Rupture of Heat Exchanger, Tesoro Anacortes Refinery, Anacortes, Washington, April 2, 2010. Report No. 2010-08-I-WA. http://www.csb.gov/assets/1/7/Tesoro_Anacortes_2014-May-01.pdf.

⁹ CSB. January 2014. Regulatory Report: Chevron Richmond Refinery Pipe Rupture and Fire, Chevron Richmond Refinery #4 Crude Unit, Richmond, California, August 6, 2012. Report No. 2012-03-I-CA. http://www.csb.gov/assets/1/19/CSB_Chevron_Richmond_Refinery_Regulatory_Report.pdf.

¹⁰ CSB. June 27, 2013. Testimony of Rafael Moure-Eraso, Ph.D. Chairperson, CSB Before the U.S. Senate Committee on Environment and Public Works, pg. 8. http://www.csb.gov/assets/1/19/CSB-Written_Senate_Testimony_6.27.13.pdf.

A. Overview of EPA's Risk Management Program Regulations

Both EPA's 40 CFR part 68 RMP regulation¹¹ and Occupational Safety and Health Administration's (OSHA) 29 CFR 1910.119 Process Safety Management (PSM) standard were authorized in the Clean Air Act Amendments of 1990 (1990 CAAA). This was in response to a number of catastrophic chemical accidents occurring worldwide that had resulted in public and worker fatalities and injuries, environmental damage, and other community impacts. OSHA published the PSM standard in 1992 (57 FR 6356, February 24, 1992), as required by section 304 of the 1990 CAAA, using its authority under 29 U.S.C. 653.

The 1990 CAAA added accidental release provisions under section 112(r). The statute required EPA to develop a list of at least 100 regulated substances for accident prevention and related thresholds (CAA section 112(r)(3) through (5)), and authorized EPA to issue accident prevention regulations (CAA section 112(r)(7)(A)). The statute also required EPA to develop "reasonable regulations" requiring facilities with over a TQ of a regulated substance to undertake accident prevention steps and submit a "risk management plan" to various local, state, and Federal planning entities (CAA section 112(r)(7)(B)).

EPA published the RMP regulation in two stages. The Agency published the list of regulated substances and TQs in 1994 (59 FR 4478, January 31, 1994) (the "list rule")¹² and published the RMP final regulation, containing risk management requirements for covered sources, in 1996 (61 FR 31668, June 20, 1996) (the "RMP rule").^{13 14} Both the OSHA PSM standard and the EPA RMP rule aim to prevent or minimize the consequences of accidental chemical

¹¹ 40 CFR part 68 is titled, "Chemical Accident Prevention Provisions," but is more commonly known as the "RMP regulation," the "RMP rule," or the "Risk Management Program." This document uses all three terms to refer to 40 CFR part 68. The term "RMP" refers to the document required to be submitted under subpart F of 40 CFR part 68, the Risk Management Plan. See <http://www2.epa.gov/rmp> for more information on the Risk Management Program.

¹² 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.

¹³ Documents and information related to development of the RMP rule can be found in EPA docket number A-91-73.

¹⁴ 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.

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 covered sources to submit (to EPA) a document summarizing the source's risk management program—called a Risk Management Plan (or RMP). The RMP rule required covered sources to comply with its requirements and submit initial RMPs to EPA by June 21, 1999. Each RMP must be revised and updated at least once every five years from the date the plan was initially submitted.

EPA later revised the list rule and the RMP rule. EPA modified the regulated list of substances by exempting solutions with less than 37% concentrations of hydrochloric acid (62 FR 45130, August 25, 1997). EPA also deleted the category of Department of Transportation Division 1.1 explosives, and exempted flammable substances in gasoline used as fuel and in naturally occurring hydrocarbon mixtures prior to initial processing (63 FR 640, January 6, 1998).

EPA subsequently modified the RMP rule five times. First, in 1999, EPA revised the facility identification data and contact information reported in the RMP (64 FR 964, January 6, 1999). Next, EPA revised assumptions for the worst case scenario analysis for flammable substances and clarified what the Agency means by chemical storage not incidental to transportation (64 FR 28696, May 26, 1999). After the Chemical Safety Information, Site Security and Fuels Regulatory Relief Act (CSISSFRRA) was enacted on August 5, 1999, EPA excluded regulated flammable substances when used as a fuel or held for sale as a fuel at a retail facility (65 FR 13243, March 13, 2000). Later, EPA restricted access to offsite consequence analysis (OCA) data for the public and government officials to minimize the security risks associated with posting the information on the Internet (65 FR 48108, August 4, 2000). Finally, EPA revised the RMP executive summary to remove a requirement to describe the OCA; revised reporting deadlines for RMP reportable accidents and emergency contact changes; and made other minor revisions to RMP facility contact information (69 FR 18819, April 8, 2004).

The RMP rule establishes three "program levels" for regulated processes:

Program 1 applies to processes that would not affect the public in the case of a worst-case release and that have had no accidents with specific offsite

consequences within the past five years. Program 1 imposes limited hazard assessment requirements, requires coordination with local response agencies, and requires submission of an RMP.

Program 2 applies to processes not eligible for Program 1 or subject to Program 3, and imposes streamlined prevention program requirements, including safety information, hazard review, operating procedures, training, maintenance, compliance audits, and incident investigation elements. Program 2 also imposes additional hazard assessment, management, and emergency response requirements.

Program 3 applies to processes not eligible for Program 1 and either subject to OSHA's PSM standard under Federal or state OSHA programs or classified in one of ten specified industry sectors identified by their 2002 NAICS codes listed at § 68.10(d)(1). These industries were selected because they had a higher frequency of the most serious accidents as compared to other industry sectors. The ten NAICS codes and the industries they represent are 32211 (pulp mills), 32411 (petroleum refineries), 32511 (petrochemical manufacturing), 325181 (alkalies and chlorine manufacturing), 325188 (all other basic inorganic chemical manufacturing), 325192 (cyclic crude and intermediate manufacturing), 325199 (all other basic chemical manufacturing), 325211 (plastics material and resin manufacturing), 325311 (nitrogenous fertilizer manufacturing), or 32532 (pesticide and other agricultural chemicals manufacturing).¹⁵ Program 3 imposes elements nearly identical to those in OSHA's PSM standard as the accident prevention program. The Program 3 prevention program includes requirements relating to process safety information (PSI), PHA, operating procedures, training, mechanical integrity, management of change (MOC), pre-startup review, compliance audits, incident investigations, employee participation, hot work permits, and contractors. Program 3 also imposes the same hazard assessment, management, and emergency response requirements that are required for Program 2.

On July 22, 2015, OSHA issued a revised interpretation to its PSM retail exemption at 29 CFR 119(a)(2)(i).¹⁶ This

¹⁵ NAICS codes 325181 and 325188 are now combined and represented as 2012 revised NAICS code 325180 (other basic inorganic chemical manufacturing). NAICS code 325192 is now 2012 revised NAICS code 325194 (cyclic crude, intermediate, and gum and wood chemical manufacturing).

¹⁶ See OSHA PSM Retail Exemption Policy <https://www.osha.gov/pls/oshaweb/owadisp.show>

interpretation now only allows facilities in NAICS codes 44 and 45, the retail trade, to be eligible for the retail exemption. As a result of this change, many agricultural chemical distributors who sell bulk anhydrous ammonia and some chemical warehouses, are no longer exempt from the PSM standard. This makes them subject to RMP Program 3 requirements, whereas before most were covered under Program 2.

EPA believes 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. However, major incidents, such as the West, Texas, explosion, highlight the importance of reviewing and evaluating current practices and regulatory requirements, and applying lessons learned from other incident investigations to advance process safety where needed.

III. Additional Information

A. What actions are not addressed in this rule?

Under section 6 of Executive Order 13650, "Improving Chemical Facility Safety and Security," the Executive Order Working Group (chaired by EPA, OSHA, and Department of Homeland Security [DHS]) was tasked with enhancing safety at chemical facilities by identifying key improvements to existing risk management practices through guidance, policies, procedures, outreach, and regulations. As part of this task, the Working Group solicited public comment on potential options for improving chemical facility safety. Additionally, EPA gathered information from the public regarding potential changes to EPA's Risk Management Program regulations (40 CFR part 68) via a RFI (79 FR 44604, July 31, 2014). Using the results from these efforts as well as information collected through implementing the Risk Management Program, EPA is proposing revisions to the RMP rule to advance chemical facility safety. However, this proposed rule does not address all of the topics included in the RFI. For example, EPA is not proposing any revisions to the list of regulated substances and is therefore not addressing ammonium nitrate (AN) in this proposed rule. EPA may propose listing additional hazardous substances in a separate action.

Currently AN is not listed as a regulated substance under the RMP rule or the OSHA PSM standard. Required safe handling and storage practices for AN are covered under OSHA's

Explosives and Blasting Agents Standard (29 CFR 1910.109) and includes coverage of fertilizer grade AN in section 1910.109(i). Section 1910.109(k)(2) requires that manufacturing of explosives must meet requirements under OSHA's PSM standard (29 CFR 1910.119); this would include any explosive manufacturing process involving AN. OSHA is considering whether AN should be added to the § 1910.119 Appendix A list of chemicals subject to the PSM standard, which could expand the standard's applicability to include processes at fertilizer mixers, distributors and wholesalers who store and handle AN. OSHA is also considering whether to make changes to the AN storage and handling requirements in their Explosives and Blasting Agents standard, which has requirements for AN stored with and without, explosives and blasting agents. DHS is considering potential modifications of its Chemical Facility Anti-Terrorism Standards (CFATS) regulation, including reviewing the applicability and/or modification of screening TQs for chemicals of interest in Appendix A in 6 CFR part 27, which include AN (79 FR 48693, August 18, 2014).¹⁷ We plan to coordinate any potential change to the list of substances 40 CFR part 68 with the actions of these other agencies. Therefore, EPA is not presently proposing that AN be added to the list of substances subject to the RMP rule, but the Agency may elect to propose such a listing at a later date.

B. 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 of the portions of the Risk Management Program rule we propose to modify in this document are based on EPA's rulemaking authority under section 112(r)(7) of the CAA (42 U.S.C. 7412(r)(7)). A more detailed discussion of the underlying statutory authority for the current requirements of the Risk Management Program rule appears in the action that proposed the Risk Management Program (58 FR 54190, 54191–93 [Oct. 20, 1993]). The prevention program provisions discussed below (auditing, incident investigation, and safer technologies alternatives analysis) address the "prevention and detection of accidental releases." The emergency coordination and exercises provisions in this rule

modify existing provisions that provide for "response to such release by the owners or operators of the sources of such releases." (CAA 112(r)(7)(B)(i)). This paragraph calls for EPA's regulations to recognize differences in "size, operations, processes, class and categories of sources." In this document, we propose to maintain distinctions in prevention program levels and in response actions authorized by this provision. The information disclosure provisions discussed in this document generally assist in the development of "procedures and measures for emergency response after an accidental release of a regulated substance in order to protect human health and the environment." This information disclosure ensures the emergency plans for impacts on the community are based on more relevant and accurate information than would otherwise be available and ensures that the public can become an informed participant in such emergency planning.

IV. Prevention Program Requirements

A. Incident Investigation and Accident History Requirements

1. Summary of Existing Investigation Requirements

Currently, owners or operators of facilities with processes subject to Program 2 and Program 3 are required to investigate each incident which resulted in, or could reasonably have resulted in a catastrophic release (§§ 68.60 and 68.81). The RMP rule defines a catastrophic release in § 68.3 as a major uncontrolled emission, fire, or explosion, involving one or more regulated substances that presents an imminent and substantial endangerment to public health and the environment. Imminent and substantial endangerment includes offsite consequences such as death, injury, or adverse effects to human health or the environment, or the need for the public to shelter-in-place or be evacuated to avoid such consequences.

Facility owners or operators are required to determine the factors that contributed to the incident and develop recommendations resulting from the investigation. The PHA (§ 68.67 (c)(2)) is required to address previous incidents which had a likely potential for catastrophic consequences. In the preamble to the existing final rule, EPA explained that while most catastrophic releases affect workers first, there are incidents where workers are protected but the public and the environment may be threatened (e.g., emergency relief devices are designed to vent hazardous atmospheres away from the workplace

document?p_table=INTERPRETATIONS&p_id=29528.

¹⁷ CFATS. 79 FR 48693, August 18, 2014. <http://www.regulations.gov/#/documentDetail;D=DHS-2014-0016-0001>.

and into the air where they may be carried downwind). The PHA should recognize and address the potential offsite impact associated with safety measures that protect workers (e.g., by installing a control device on an emergency vent). The RMP rule requires that facility owners and operators consider such possibilities and integrate the protection of workers, the public, and the environment into one program. Thus, RMP facility owners and operators must investigate each significant incident which resulted in, or could reasonably have resulted in a catastrophic release with on- or offsite consequences.

2. Catastrophic Release Definition

In the 1996 final rule (61 FR 31687, June 20, 1996), EPA developed a definition of catastrophic release similar to the definition OSHA used in the PSM standard, with modifications to cover events that presented imminent and substantial endangerment to public health and the environment.¹⁸ This ensured that owners or operators of sources covered by both OSHA and EPA requirements investigated not only accidents that threatened workers, but also those that threatened the public and the environment. Because EPA modified OSHA's definition of catastrophic releases so that offsite impacts were covered, there has been confusion among some owners and operators of facilities subject to the RMP rule; some believe they should not have to investigate accidents involving only workers for the purposes of fulfilling requirements under the RMP rule. EPA recognized that the PHA process must address potential offsite impacts associated with safety measures that also protect workers, and that the final rule would ensure that all sources routinely consider such possibilities and integrate protection of workers, the public and the environment into one program. In similar fashion, EPA believes that incident investigation was not intended to be and should not be limited to only those incidents with offsite impacts.

Learning from accident causes identified from incident investigations involving only workers can also lead to preventing incidents with further impacts to the surrounding community and therefore, findings and recommendations from all incidents, regardless of who is impacted, should

be addressed. In the preamble to the 1996 final RMP rule (61 FR 31711, June 20, 1996), EPA emphasized that "any incident with the potential for catastrophic consequences in the workplace will also have had the potential for catastrophic consequences offsite." Thus, facility owners or operators should be investigating incidents even if they only impacted workers, as these could have potentially been an accident impacting the public or the environment.

EPA has not defined or clarified the term "imminent and substantial endangerment" but did make revisions in the 1996 final RMP rule in order to better define accidents to be reported under the RMP accident history requirements. To make the requirement less vague and less subject to a wide variety of interpretations, the final rule required that accident history shall include all accidental releases from covered processes "that resulted in deaths, injuries, or significant property damage on site, or known offsite deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage." EPA also provided a definition for "offsite" and "injury."

EPA is proposing to modify the definition of catastrophic release to be identical to the description of accidental releases required to be reported under the accident history reporting requirements in § 68.42. The proposed definition, in § 68.3, replaces "that presents imminent and substantial endangerment to public health and the environment" with impacts that resulted in deaths, injuries, or significant property damage on-site, or known offsite deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage. This better defines the impacts for incidents requiring investigations that caused or could have caused these impacts and clarifies EPA's intent, rather than leaving it open for interpretation. This is consistent with the accident impacts that must be reported under the 5-year accident history, which EPA considered relevant to include in 1996 "because it may reflect safety practices at the source" and because "accidental releases from covered processes which resulted in deaths, injuries, or significant property damage on-site, involve failures of sufficient magnitude that they have the potential to affect offsite areas."¹⁹

As required by section 609(b) of the RFA, the EPA convened a Small Business Advocacy Review (SBAR) Panel to obtain advice and recommendations from small entity representatives (SERs) that would potentially be subject to the rule's requirements. As part of the SBAR Panel process, some SERs indicated that EPA's proposed modification of the definition of catastrophic release would in effect expand that definition, and thereby require investigation of incidents that did not fall under the previous definition. SERs noted that EPA's current definition includes releases that present an imminent and substantial endangerment to public health and the environment, and that such releases represent only "major" accidents, and not smaller releases that endanger only workers or on-site property. As noted above, EPA's view is that accidents with only on-site impacts warrant investigation because they have the potential to affect offsite areas. Additionally, since such accidents already clearly fall within the accident history reporting criteria, regulated sources would already need to investigate them, even without the incident investigation provisions, in order to determine the accident history information required under § 68.42, which includes data (e.g., initiating event and contributing factors) that could only be determined through an investigation. Therefore, EPA believes that redefining the term catastrophic release to include the categories of accidents that require reporting under the accident history provisions clarifies, rather than expands, that definition. Nevertheless, EPA seeks comment on the proposed revision to the catastrophic release definition, whether it expands the scope of the current definition instead of clarifying it, and whether the definition should be limited to loss of life; serious injury; significant damage; or loss of offsite property.

3. Root Causes

The cause of an incident is often the result of a series of other problems that need to be addressed to prevent recurrences. For example, an operator's mistake may be the result of poor training, inappropriate procedures, or poor design of control systems; and equipment failure may result from improper maintenance, misuse of equipment (e.g., operating at too high a temperature), or use of incompatible materials. These types of causes are commonly referred to as causal factors (also known as contributing causes, contributory causes, contributing

¹⁸ The OSHA definition of *catastrophic release* is similar to the current definition of the term in the RMP rule. However, OSHA's definition pertains to incidents that present serious danger to employees in the workplace. (see 29 CFR 1910.119(b) for the full definition)

¹⁹ EPA, May 24, 1996, Risk Management Plan Rule, Summary and Response to Comments. Volume 1, pp. 3-11 and 17-4. Docket No. A-91-73, Document No. IX-C-1.

factors, or critical factors). The Center for Chemical Process Safety (CCPS) defines a causal factor as a major unplanned, unintended contributor to the incident (a negative occurrence or undesirable condition), that if eliminated would have either prevented the occurrence, or reduced its severity or frequency.²⁰ These are factors that facilitate the occurrence of an incident such as physical conditions and management practices. Causal or contributing factors usually have underlying reasons why they occurred, which are known as root causes.

Most root causes are associated with weaknesses, defects or breakdowns in management systems.²¹ Identifying root causes provides the mechanism for understanding the interaction and impact of system management failures, so that the root causes can be addressed and the maximum benefit is obtained from an incident investigation. 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. There is typically more than one root cause for a process safety incident. Correcting only the immediate cause of an incident (e.g., operator error) may prevent the identical incident from occurring at the same location, but may not prevent similar incidents. Instead, 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. The current Risk Management Program incident investigation requirements under §§ 68.60 and 68.81 do not explicitly require root causes to be determined and reported, rather they only require “the factors that contributed to the incident.” Facility owners and operators that conduct incident investigations that only identify “factors that contributed to the incident” may miss identifying the underlying, system-related reason why an incident occurred (which would be revealed in a root cause analysis). Thus EPA is proposing to require a root cause analysis to ensure that facilities determine the underlying causes of an incident to reduce or eliminate the potential for additional accidents

²⁰ CCPS. March 2003. Guidelines for Investigating Chemical Process Incidents, 2nd ed., pp. 3, 62, 181, 434. CCPS, American Institute of Chemical Engineers, New York, NY. John Wiley and Sons.

²¹ EPA recognizes that some root causes could be events that management systems could not have prevented or protected against. The analytic techniques used to identify root causes account for such events.

resulting from deficiencies of the same process safety management system.

4. Lack of Root Cause Analysis for Prior Incidents

Below are examples of incident investigations that identified similar prior incidents within the same facility or company where root causes for the prior incidents were not analyzed and determined. This resulted in missed opportunities to address the proper causes of the incidents, share the lessons learned and prevent further similar incidents.

On January 21, 1997, at a Tosco refinery, effluent piping on a hydrocracker reactor ruptured, causing an explosion and fire, killing one operator and injuring 46 other Tosco and contractor personnel. The accident was caused by an uncontrolled temperature excursion in the reactor resulting in an excessively high temperature that caused the pipe to rupture.²² Operators did not follow prescribed emergency depressurizing procedures for extremely high temperature occurrences and attempted to control the temperature by other means. Investigations of prior incidents involving unsafe temperature excursions were inadequate and not all these excursions were documented. Failure to investigate these “near-misses” resulted in a missed opportunity to determine why operators were not following prescribed emergency depressurizing procedures and to develop solutions to address the cause. After the 1997 accident, the company designed the depressurizing system to activate automatically when the reactor temperature exceeded safe operating limits.

On September 10, 1997, an explosion occurred in a resins production unit at Georgia-Pacific Resins, Inc. in Columbus, Ohio, causing the death of one worker, four injuries, extensive damage to the plant, and sheltering in place for nearby residents, a vocational school and businesses.²³ Three firefighters received first-degree burns. An accident investigation determined that raw materials and a catalyst were charged too quickly to a reactor, causing a runaway reaction generating too much heat and pressure, which caused the

²² EPA. November 1998. EPA Chemical Accident Investigation Report, Tosco Avon Refinery, Martinez, CA. EPA 550-R-98-009. <http://nepis.epa.gov/Exe/ZyPDF.cgi?10003A2E.PDF?Dockey=10003A2E.PDF>.

²³ EPA, Office of Solid Waste and Emergency Response. August 1999. How to Prevent Runaway Reactions, Case Study: Phenol-Formaldehyde Reaction Hazards. EPA 550-F99-004. <http://archive.epa.gov/emergencies/docs/chem/web/pdf/gpcasstd.pdf>.

reactor to explode. Prior to the accident, the facility had recently experienced a near miss involving similar circumstances.²⁴ An operator added chemicals to a batch resin process at too high a rate. Other alert operators noted the procedural deviation and were able to prevent an accident. The company investigated the accident and disciplined the operator, but took no other actions.

An accident on June 22, 1997, at a Shell olefins plant involved a release of flammable gases from a structural failure and drive shaft blowout from a 36 inch diameter failed check (non-return) valve, resulting in a massive explosion and fire causing extensive damage to the facility, damage to nearby residential property, several worker injuries, and sheltering in place for nearby residents. An EPA/OSHA accident investigation determined that these check valves were not appropriately designed and manufactured for the heavy-duty service to which they were subjected in the olefins production unit.²⁵ Similar problems with the check valves had occurred previously at the facility and at other facilities owned by the company, but the occurrences were not adequately investigated and did not identify all the factors involved in the valves' failure. The other valve failure occurrences did not result in as severe consequences as the 1997 event and were treated as maintenance failures, not incidents or accidents. Thus, the lessons that could have been learned from these prior failures were not adequately identified, shared, and implemented.

On April 8, 1998, at a Morton International chemical plant, a runaway reaction in a process kettle caused an overpressure of the vessel, blew off the top hatch, and spewed a stream of gas and liquid through the roof of the building and down onto the surrounding community. Residents in a 100 city-block area were confined to their homes. Nine workers were injured, two with severe burns. The U.S. Chemical Safety Board (CSB) determined that Morton could have corrected safety problems in the process if they had conducted investigations into any of the eight prior instances when process temperatures exceeded

²⁴ Belke, James C (EPA). 1997. Recurring Causes of Recent Chemical Accidents. <http://psc.che.tamu.edu/wp-content/uploads/recurring-causes-of-recent-chemical-accidents.pdf>.

²⁵ EPA and OSHA. June 1998. EPA/OSHA Joint Chemical Accident Investigation Report, Shell Chemical Company, Deer Park, TX. EPA 550-R-98-005. <http://nepis.epa.gov/Exe/ZyPDF.cgi?100039YA.PDF?Dockey=100039YA.PDF>.

the normal range.²⁶ Process and design changes resulting from such investigations could have prevented the 1998 explosion.

On April 23, 2004, an explosion and fire at the Formosa Plastics Corporation (FPC USA), Illiopolis, Illinois, (Formosa-IL) polyvinyl chloride (PVC) manufacturing facility killed five and severely injured three workers. The explosion and fire destroyed most of the reactor facility and adjacent warehouse and ignited PVC resins stored in the warehouse. Smoke from the smoldering fire drifted over the local community, and as a precaution, local authorities ordered an evacuation of the community for two days. CSB determined that this incident occurred when an operator drained a full, heated, and pressurized PVC reactor and bypassed a pressure interlock.²⁷ The safeguards to prevent bypassing the interlock were insufficient for the high risk associated with this activity. Two similar incidents at FPC USA PVC manufacturing facilities highlighted problems with safeguards designed to prevent inadvertent discharge of an operating reactor. The FPC USA Environmental Health & Safety group had received reports of both incidents, but did not recognize a key similarity: Operators could mistakenly go to the wrong reactor and bypass safeguards to open a reactor bottom valve.

On March 23, 2005, at the BP Texas City Refinery in Texas City, Texas, explosions and fires killed 15 people and injured another 180, required shelter-in-place for 43,000 people, damaged nearby houses, and resulted in financial losses exceeding \$1.5 billion. The incident occurred during the startup of an isomerization (ISOM) unit when a raffinate splitter tower was overfilled and pressure relief devices opened, resulting in a flammable liquid geyser from a blowdown stack that was not equipped with a flare. The release of flammables led to an explosion and fire. All of the fatalities occurred in or near office trailers located close to the blowdown drum. A CSB investigation found that in the years prior to the incident, eight serious releases of flammable material from the ISOM blowdown stack had occurred, and most ISOM startups experienced high liquid

levels in the splitter tower.²⁸ The investigation identified root causes of the accident involving senior leadership failures including:

- Ineffective safety culture leadership and oversight;
 - ineffective evaluation of safety implications or organization, personnel, and policy changes; and
 - inadequate resources to prevent major accidents.
- Root causes identified involving plant management failures included:
- Lack of an effective reporting and learning culture (incidents were often ineffectively investigated);
 - use of outdated plant policies and procedures;
 - poor design of the ISOM unit;
 - inadequate supervision of operators;
 - inadequate training of operators; and
 - ineffective consideration of human factors regarding training, staffing, and work schedules for operators.

The ineffective investigation of previous incidents resulted in a failure to identify, or act upon, lessons from incidents and near-misses. This includes a failure to incorporate relevant safety lessons from a British government investigation²⁹ of incidents at BP's Grangemouth, Scotland, refinery, which were relevant to the Texas City refinery.

On August 23, 2010, the Millard Refrigerated Service warehouse in Theodore, Alabama, had a release of approximately 32,000 pounds of anhydrous ammonia from a cracked pipe, when refrigeration equipment malfunctioned. The ammonia travelled directly over a shipyard in Mobile, Alabama, where more than 800 people were working, causing 152 people to be treated at hospitals, four of whom were admitted into intensive care units. An EPA investigation of the incident revealed that Millard failed to adequately address a well-known risk for ammonia production systems called hydraulic shock, which can cause catastrophic equipment failures.³⁰ EPA

also discovered that Millard had two prior smaller ammonia releases in April 2007 and January 2010 caused by hydraulic shock. Company investigations of those incidents failed to identify and correct this problem, which could have prevented the catastrophic release that occurred in August 2010.

5. Current Use of Root Cause Analysis

Root cause analysis of accidents is an accepted safe management practice used by many industries. The American Chemistry Council (ACC) noted that root cause analysis is conducted routinely under a number of voluntary programs, including Responsible Care.³¹ The Texas Pipeline Association (TPA) stated that a requirement to perform a root cause analysis was not needed because it is a common industry practice.³² However, the Compressed Gas Association (CGA) stated that they supported modifying current regulations to include a requirement that root cause analyses be conducted for incidents but not for near misses or process upsets because defining a "near miss" or "process upset" is extremely difficult and will likely vary by industry, process, locations and the like.³³ EPA addresses the difficulty of defining the term "near miss", in section IV.A.7. Near Misses.

ACC also notes that there are a number of recognized industry resources to aid incident investigations of root causes. For example, CCPS offers several resources, including the "Guidelines for Investigating Chemical Process Incidents," 2nd edition, which provides valuable, practical reference tools, and focuses on process-related incidents with real or potential catastrophic consequences.³⁴ ACC further notes that there are a number of companies that provide excellent root cause failure analysis training.

California's Contra Costa County Health Services (CCHS) and the city of Richmond, California, each have incident investigation regulations in their Industrial Safety Ordinances (ISO) similar to those in § 68.81 and, in

²⁶ CSB. 2000. Investigation Digest: Morton International Explosion, Paterson, NJ, April 8, 1998. http://www.csb.gov/assets/1/19/Morton_Digest.pdf.

²⁷ CSB. March 2007. Investigation Report: VCM Explosion, Formosa Plastics Corp., Illiopolis, Illinois, April 23, 2004. Report No. 2004-10-I-IL. http://www.csb.gov/assets/1/19/Formosa_IL_Report.pdf.

²⁸ CSB. March 2007. Investigation Report: Refinery Explosion and Fire, BP, Texas City, Texas, March 23, 2005. Report No. 2005-04-I-TX. <http://www.csb.gov/assets/1/19/CSBFinalReportBP.pdf>.

²⁹ Health and Safety Executive (United Kingdom) and Scottish Environment Protection Agency. August 18, 2003. Major Incident Investigation Report—BP Grangemouth Scotland, 29th June–10th May, 2000. A Public Report Prepared on Behalf of the Competent Authority. <http://www.hse.gov.uk/comah/bpgrange/images/bprgrangemouth.pdf>.

³⁰ EPA. May 29, 2015. *USA vs. Millard Refrigerated Services, LLC*, U.S. District Court for the Southern District of Alabama, Civil Action No. 15-186. pp. 9–11, and 19–20. Case 1:15-cv-00186-WS-M Document 5. <http://www2.epa.gov/sites/production/files/2015-06/documents/millard->

[cp.pdf](http://www2.epa.gov/enforcement/millard-refrigerated-services-llc-clean-air-act-caa-settlement). See also <http://www2.epa.gov/enforcement/millard-refrigerated-services-llc-clean-air-act-caa-settlement>.

³¹ ACC. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0694 on Risk Management Program RFI, p. 43 of 189.

³² TPA. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0617 on Risk Management Program RFI, p. 8.

³³ CGA. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0633 on Risk Management Program RFI, p. 6.

³⁴ CCPS 2003. Center for Chemical Process Safety, Guidelines for Investigating Chemical Process Incidents, 2nd Edition, NY: AIChE.

addition, require a root cause analysis for each major chemical accident.^{35 36}

New Jersey's Toxic Catastrophe Prevention Act (TCPA) requires investigation of all extraordinarily hazardous substance accidents or potential catastrophic events. The TCPA requirements have the same incident investigation requirements found in § 68.81, but the TCPA investigation report requires additional information beyond the requirements in § 68.81.³⁷ The TCPA investigation report must include:

- Time and location of the chemical accident or potential catastrophic event;
- A description of the chemical accident or potential catastrophic event in chronological order, providing all the relevant facts;
- The identity, amount, and duration of the chemical release if these facts can be reasonably determined based on the information obtained through the investigation;
- The consequences, if any, of the chemical accident or potential catastrophic event, including the number of evacuees, injured, and fatalities, and the impact on the community;
- The factors that contributed to the chemical accident or potential catastrophic event that includes an identification of basic and contributory causes, either direct or indirect; and
- The names and position titles of the investigators.

Once the incident scenario is understood and contributory causes identified, this information may be used to determine the incident's root causes which are the underlying systemic reasons related to a failure in a management system.

EPA believes that providing the following information is vital for understanding the nature of the incident and should be included in the incident investigation report:

- The chronological order of details of the incidents,
- the chemical identity,
- amount and duration of the release,
- the impacts of the release, and
- basic and contributory causes, either direct or indirect.

³⁵ Contra Costa County Board of Supervisors. 2006. California's Contra Costa County ISO, pp. 5, 12–13, 17–19. <http://cchealth.org/hazmat/pdf/iso/Chapter-450-8-RISK-MANAGEMENT.pdf>.

³⁶ A major chemical accident is defined in the ISO as one meeting a level 2 or 3 incident classification as determined by the county or one resulting in: One or more fatalities; at least three persons hospitalized for at 24 hours; on- and/or offsite property damage (including clean-up and restoration activities) initially estimated at \$500,000 or more; or a vapor cloud of flammables and/or combustibles that is more than 5,000 pounds.

³⁷ New Jersey Department of Environmental Protection (NJDEP) TCPA. March 29, 2012. NJDEP. Title 7, Chapter 31 TCPA Program Consolidated Rule Document, p. 62. http://www.state.nj.us/dep/rpp/brp/tcpa/downloads/conrulerev9_fonts.pdf.

Some facility owners or operators may already include this information in incident investigation reports prepared to comply with the RMP rule; however, EPA is proposing that §§ 68.60 and 68.81 be revised to require this information to ensure clarity and consistency among reports.

To better address causes of incidents and further reduce the occurrence of catastrophic releases, EPA is proposing to require that for all Program 2 and Program 3 process incidents that resulted in, or could reasonably have resulted in, a catastrophic release, the owner or operator determine and identify the factors that contributed to the incident, including immediate and contributory causes, either direct or indirect, and root causes. EPA is proposing to define “root cause” (see § 68.3 for the proposed definition).

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.³⁸ OSHA plans to develop a fact sheet on existing resources that explain how to conduct root cause analyses so the regulated community can better understand the causes of incidents and can increase its capability to effectively prevent future occurrences.³⁹

In order that lessons learned from incident investigations be applied, EPA is proposing to modify the hazard review requirement in § 68.50(a)(2) and the PHA requirement in § 68.67(c)(2) to require the owner or operator to address findings from all incident investigations required under §§ 68.60 and 68.81, respectively. EPA is also proposing to require that for incident investigations conducted by Program 2 sources, an incident investigation team be established and consist of at least one person knowledgeable in the process involved and other persons with appropriate knowledge and experience to thoroughly investigate and analyze the incident. This requirement is already part of Program 3 incident investigation requirements, and is a necessary component for investigations

³⁸ CCPS. March 2003. Guidelines for Investigating Chemical Process Incidents, 2nd ed.

³⁹ Chemical Facility Safety and Security Working Group. May 2014. Executive Order 13650 Report to the President—Actions to Improve Chemical Facility Safety and Security—A Shared Commitment, p. 47. https://www.osha.gov/chemicalexecutiveorder/final_chemical_eo_status_report.pdf.

that would include analysis of root causes.

EPA seeks comment on the proposed amendments of the incident investigation requirements to require root cause investigations for each incident which resulted in, or could reasonably have resulted in, a catastrophic release and on the proposed definition for root cause. EPA seeks comment on whether a root cause analysis is appropriate for every RMP reportable accident and near miss. Should EPA eliminate the root cause analysis, or revise to limit or increase the scope or applicability of the root cause analysis requirement? If so, how should EPA revise the scope or applicability of this proposed requirement? EPA also seeks comment on proposed amendments to require consideration of incident investigation findings, in the hazard review (§ 68.50) and PHA (§ 68.67) requirements. Finally, EPA seeks comment on the proposed additional requirement in § 68.60 to require personnel with appropriate knowledge of the facility process and knowledge and experience in incident investigation techniques to participate on an incident investigation team.

6. Decommissioned Processes

EPA has encountered some cases where a facility chose not to conduct an incident investigation because the owner or operator elected to decommission the process involved, or because the process was destroyed in the incident. While an investigation would have no impact on a decommissioned or destroyed process, other similar processes or operations at the facility, or at similar facilities, could potentially benefit from its findings.

CCHS and two industry associations commented that there are lessons that can be learned from requiring investigations to be performed, even in cases where the owner or operator elects to decommission the process involved or where the process is destroyed in the incident.^{40 41} Therefore, EPA is proposing to revise §§ 68.60 and 68.81 to clarify that incident investigations are required even if the process involving the regulated substance is destroyed or decommissioned following or as the result of an incident. EPA is also proposing to revise § 68.190, which addresses updates to the RMP, to

⁴⁰ CCHS. October 28, 2014. Comment No. EPA–HQ–OEM–2014–0328–0546 on Risk Management Program RFI, p. 12.

⁴¹ Independent Petroleum Association of America (IPAA) AXPC. October 29, 2014. Comment No. EPA–HQ–OEM–2014–0328–0584 on Risk Management Program RFI, p. 33.

require that prior to any de-registration of a process or stationary source that is no longer subject to the Risk Management Program rule, the owner or operator must report any accidents subject to the requirements of § 68.42 and conduct incident investigations as required under §§ 68.60 and/or 68.81. EPA seeks comment on the proposed revisions to require an owner or operator to meet applicable reporting and incident investigation requirements prior to de-registering a process.

7. Near Misses

The current incident investigation provisions require facilities with Program 2 and/or 3 processes to investigate incidents that could reasonably have resulted in a catastrophic release. These types of incidents are sometimes characterized as “near misses” but there is confusion about what this term means. Several commenters on the Risk Management Program RFI, including the Society of Chemical Manufacturers and Affiliates (SOCMA),⁴² American Petroleum Institute (API),⁴³ Gas Processors Association (GPA),⁴⁴ National Oilseed Processors Association (NOPA), & Corn Refiners Association (CRA),⁴⁵ and American Fuel & Petrochemical Manufacturers (AFPM),⁴⁶ stated that they interpret the current requirements as including near misses. Other commenters (ACC,⁴⁷ TPA,⁴⁸ CGA,⁴⁹ DPC Industries, Inc.,⁵⁰ and Allied Universal Corp [AUC])⁵¹ urged EPA to not require investigations of near misses because the term is vague, inherently situation-specific and not reducible to a singular definition. CCPS defines a near

miss as an event in which an accident causing injury, death, property damage, or environmental impact, could have plausibly resulted if circumstances had been slightly different.⁵²

EPA itself may have contributed to the confusion over the meaning of the term “near miss.” In the 1993 proposed RMP rule (58 FR 54200, October 20 1993), EPA indicated that investigation of near misses could provide facilities with important information on problems that should be addressed before a significant accidental release occurs. EPA considered a near miss as a mishap that did not result in a release for some reason, such as employee actions or luck. However, in the primary interpretive guidance document for the RMP rule, “General Guidance on Risk Management Programs for Chemical Accident Prevention (40 CFR part 68)” (RMP Guidance), originally published in 1999, EPA indicated that while the owner or operator “must investigate each incident which resulted in, or could have resulted in, a catastrophic release of a regulated substance,” the owner or operator was not required to investigate “minor accidents or near misses.”

You should also consider investigating minor accidents or near misses because they may help you identify problems that could lead to more serious accidents; however, you are not required to do so under part 68.⁵³

Here, EPA intended to differentiate between incidents, which “could have resulted in a catastrophic release,” and “minor accidents and [minor] near misses,” which are unlikely to have led to a catastrophic release.

EPA’s experiences with RMP facility inspections and incident investigations show there have been incidents that were not investigated, even though under slightly different circumstances, the incident could have resulted in a catastrophic release. While these events did not result in deaths, injuries, adverse health or environmental effects, or sheltering-in-place, if circumstances had been slightly different, a catastrophic release could have occurred. For example, a runaway reaction that is brought under control by operators is a near miss that may need to be investigated to determine why the problem occurred, even if it does not directly involve a covered process both because it may have led to a release from a nearby covered process or

because it may indicate a safety management failure that applies to a covered process at the facility. Similarly, fires and explosions near or within a covered process, any unanticipated release of a regulated substance, and some process upsets could potentially lead to a catastrophic release.

Facilities regulated under New Jersey’s TPCA program are required to investigate each regulated chemical (“extraordinarily hazardous substance”), involved in an accident or potential catastrophic event.⁵⁴ The NJDEP notes that “potential catastrophic event” means an incident that could have reasonably resulted in a catastrophic release of a regulated chemical which includes incidents in which no regulated chemical was released or no regulated chemical was released beyond a permitted level, or in other words, a near miss. Facilities report accidents and potential catastrophic events annually to New Jersey. NJDEP notes that each year, less than fifty percent of the facilities reported that they had one or more incidents.⁵⁵ Most of the incidents reported involved the release of a regulated chemical. The number of near misses reported averaged less than 1 per facility.

In its comments on the Risk Management Program RFI, GPA reasoned that requiring a root cause analysis for minor near misses would be burdensome and costly and would discourage employees and contractors from reporting near misses because of the burden of conducting a rigorous investigation.⁵⁶ Similarly, some commenters, such as API thought that process upsets should not be included in incident investigation requirements because there is no standard definition; process upsets vary across a wide range from product quality/efficiency issues to ones that represent near-miss situations; and learning from process upset events that do potentially challenge process safety systems can be accomplished via other means. According to API, including all process upsets would overburden the root cause analysis/

⁴² SOCMA. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0560 on Risk Management Program RFI, p. 9.

⁴³ API. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0624 on Risk Management Program RFI, p. 32.

⁴⁴ GPA. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0626 on Risk Management Program RFI, p. 12.

⁴⁵ NOPA & CRA. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0328 on Risk Management Program RFI, pp. 30–31.

⁴⁶ AFPM. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0665 on Risk Management Program RFI, pp. 46–47.

⁴⁷ ACC. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0694 on Risk Management Program RFI, PDF pp. 44–45 of 189.

⁴⁸ TPA. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0617 on Risk Management Program RFI, pp. 7–8.

⁴⁹ CGA. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0633 on Risk Management Program RFI, p. 6.

⁵⁰ DPC Industries, Inc. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0649 on Risk Management Program RFI, p. 4.

⁵¹ AUC. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0646 on Risk Management Program RFI, p. 3.

⁵² CCPS. March 2003. Guidelines for Investigating Chemical Process Incidents, 2nd ed., p. 61.

⁵³ See General Guidance on Risk Management Programs for Chemical Accident Prevention (40 CFR part 68), EPA-550-B-04-001, April 2004, page 6–26. <http://www2.epa.gov/rmp/guidance-facilities-risk-management-programs-rmp#general>.

⁵⁴ NJDEP TPCA. March 29, 2012. NJ Title 7, Chapter 31 TPCA Program Consolidated Rule Document, p. 2. http://www.state.nj.us/dep/rpp/brp/tpca/downloads/conrulerev9_fonts.pdf.

⁵⁵ NJDEP. October 21, 2014. Comment No. EPA-HQ-OEM-2014-0328-0338 on Risk Management Program RFI, p. 16.

⁵⁶ GPA. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0626 on Risk Management Program RFI, p. 14.

investigation resources within a facility.⁵⁷

CCPS's "Process Safety Leading and Lagging Metrics—You Don't Improve What You Don't Measure" explains that a near miss has three essential elements.⁵⁸ These include:

- An event occurs, or a potentially unsafe situation is discovered;
- the event or unsafe situation had reasonable potential to escalate, and
- the potential escalation would have led to adverse impacts.

The CCPS document and the CCPS "Guidelines for Investigating Chemical Process Incidents" contain many examples of near misses, which can be an actual event or discovery of a potentially unsafe situation.⁵⁹ Examples of incidents that should be investigated include some 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.

Near misses should also include any incidents at nearby processes or equipment outside of a regulated process if the incident had the potential to cause a catastrophic release from a nearby regulated process. An example would be a transformer explosion that could have impacted nearby regulated process equipment causing it to lose containment of a regulated substance. Near misses could also include process upsets such as activation of relief valves, interlocks, blowdown systems or rupture disks.

Because it is difficult to prescribe the various types of incidents that may occur in RMP-regulated sectors that should be considered near misses, and therefore be investigated, EPA is not proposing a regulatory definition. Instead, EPA will rely on facility owners or operators to decide which incidents to investigate, based on the seriousness of the incident, the process(es) involved, and the specific conditions and circumstances involved. In the 1996 Response to Comments on the final rule, EPA acknowledged that

the range of incidents that reasonably could have resulted in a catastrophic release is very

⁵⁷ API. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0624 on Risk Management Program RFI, p. 32.

⁵⁸ CCPS. January 2011. Process Safety Leading and Lagging Metrics—You Don't Improve What You Don't Measure, p. 36. CCPS, American Institute of Chemical Engineers, New York, NY. John Wiley and Sons. http://www.aiche.org/sites/default/files/docs/pages/CCPS_ProcessSafety_Lagging_2011_2-24.pdf.

⁵⁹ CCPS. March 2003. Guidelines for Investigating Chemical Process Incidents, 2nd ed., p. 68.

broad and cannot be specifically defined.⁶⁰ EPA decided to leave it up to the discretion of the owner or operator to determine whether an incident could reasonably have resulted in a catastrophic release and to investigate such incidents.

The intent is not to include every minor incident or leak, but focus on serious incidents that could have resulted in a catastrophic release, although EPA acknowledges this will require subjective judgment.

Finally, EPA expects that lessons learned from near miss incident investigations be considered when conducting a hazard review or PHA. Therefore, the proposed amendments to §§ 68.50(a)(2) and 68.67(c)(2) would require the hazard review and the PHA to include findings from all incident investigations required under §§ 68.60 and 68.81. This includes incidents that could reasonably have resulted in a catastrophic release (*i.e.*, a near miss).

EPA seeks comment on the guidance and examples provided of a near miss. Is further clarification needed in this instance? Should EPA consider limiting root cause analyses only for incidents that resulted in a catastrophic release?

8. Investigation Timeframe

EPA believes incident investigations will result in improved process safety through the dissemination of lessons learned and the implementation of recommended corrective actions. Conducting these 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. Therefore, in the Risk Management Program RFI, EPA considered whether incident investigations should be required to be completed within a certain amount of time. In their comments on the RFI, Mary Kay O'Connor Process Safety Center (MKOPSC)⁶¹ stated that the timeframe requirement for an incident investigation to be completed should be based on the following factors: The consequence, the complexity of the incident, the process, the substance, and the investigation team's experience,

⁶⁰ EPA. May 24, 1996. Risk Management Plan Rule, Summary and Response to Comments. Volume 1, p. 16-4. Docket No. A-91-73, Document No. IX-C-1.

⁶¹ MKOPSC. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0543 on Risk Management Program RFI, p. 144.

knowledge and members. ACC⁶² and API⁶³ noted that the time to complete an investigation is highly dependent on the complexity of the accident and the process and can require assistance from outside process experts that may not immediately be available. CCHS commented that a specific timeframe for incident investigations to be completed would benefit overall safety and noted that most incidents can be investigated within six months.⁶⁴ However, CCHS stated that it may be appropriate that a specific time be required that could be changed by documented justification. As to timeframes, some of the refineries in Contra Costa County, California, have corporate requirements to complete all investigations within 30 to 60 days. Exceptions can be granted for large events. CCHS noted that there are challenges and limitations to completing an incident investigation within a specified timeframe. Other RFI commenters, such as TPA,⁶⁵ GPA,⁶⁶ and JR Simplot,⁶⁷ noted that having a specific timeline to complete an investigation could cause facilities to focus more on complying with a deadline at the expense of using the appropriate level of rigor and getting the right answer. EPA's own experience with accident investigation has shown that a major accident investigation can take up to a year or more. Taking into consideration the need for completion of an investigation while allowing the proper time to determine the correct root causes, EPA is proposing to require that facility owners or operators complete an incident investigation report within 12 months of an incident that resulted in, or could reasonably have resulted in, a catastrophic release. For very complex incident investigations that cannot be completed within 12 months, EPA is allowing an extension of time if the implementing agency approves, 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

⁶² ACC. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0694 on Risk Management Program RFI, p. 44.

⁶³ API. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0624 on Risk Management Program RFI, p. 32.

⁶⁴ CCHS. October 28, 2014. Comment No. EPA-HQ-OEM-2014-0328-0546 on Risk Management Program RFI, p. 12.

⁶⁵ TPA. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0617 on Risk Management Program RFI, p. 9.

⁶⁶ GPA. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0626 on Risk Management Program RFI, p. 13.

⁶⁷ JR Simplot. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0667 on Risk Management Program RFI, p. 31.

implementing agency and receive approval for an extension of time.

EPA notes 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 (see 40 CFR parts 63.648(j)(6) and (j)(7)), and 60.103a(d)) 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. However, root cause analyses conducted to meet those requirements may also be used to comply with the root cause analysis requirements proposed herein, provided the analysis meets the requirements of § 68.60 or § 68.81, as applicable.

EPA seeks comment on the appropriateness of establishing a specific timeframe for incident investigations to be completed and what that timeframe should be. As an alternative, EPA considered whether the incident investigation should be completed prior to restart of the affected process, if the incident resulted in a process shutdown, to ensure that the causes of an incident have been addressed. EPA seeks comment on whether to add this condition to the incident investigation requirements or whether there are other options to ensure that unsafe conditions that led to the incident are addressed before a process is re-started. EPA also seeks comment on whether the different root cause analysis timeframes specified under the MACT and NSPS and proposed herein will cause any difficulties for sources covered under both rules, and if so, what approach EPA should take to resolve this issue.

9. Accident History Reporting

Thorough investigations and reporting may help facilities identify and address root causes. Accident history reporting provides an avenue to disseminate lessons learned. Local communities are interested in whether facilities are investigating incidents and taking steps to prevent future accidents. EPA believes it is important to determine and report results of root cause analysis for accidents with reportable impacts in the RMP accident history. Therefore, EPA has proposed that information on root causes analyzed as part of an incident investigation be included in the RMP accident history in § 68.42. Because

there can be numerous potential incident root causes identified for a single incident, and in order to simplify reporting for the RMP accident history, EPA believes that the root cause information should be reported as root cause categories.

Various methods for identifying root causes have been published. Some methods involve the use of root cause trees which show root cause categories for different PSM systems, where each category can be associated with many specific root cause deficiencies.^{68 69} One root cause system uses the following list of root cause categories: Procedures; Training; Communications; Administrative/Management System; Personal Performance; Human Factors Engineering; Immediate Supervision; Equipment Design; Equipment/Records; Equipment Reliability/Maintenance; and Equipment Installation/Fabrication. Another uses a slightly different list: Procedures, Training, Quality Control, Communications, Management System, Human Engineering and Immediate Supervision. EPA will modify its on-line reporting system for RMPs (RMP*eSubmit) to incorporate an appropriate list of root cause categories for RMP facility incident investigations of RMP reportable accidents based on these categories.

Because EPA is proposing that the incident investigation be required to be completed within 12 months, root causes may not be known until 12 months after an accidental release. Section 68.195(a) currently requires that the accident history information in § 68.42 be submitted within six months of the release. Because EPA is proposing to add accident root cause categories to § 68.42, EPA is also proposing in § 68.195(a)(2) that the root cause categories be submitted in the RMP within 12 months of the release.

EPA seeks comment on the appropriateness of requiring root cause reporting as part of the accident history requirements of § 68.42, as well as the categories that should be considered and the timeframe within which the root cause information must be submitted.

⁶⁸Paradies, Mark, Unger, Linda and Busch, David. 1996. TapRooT® Root Cause Tree™ & User's Manual, Rev. 4. Systems Improvements, Inc., Knoxville, TN.

⁶⁹ABS Group Inc. 1999. Root Cause Map™ and Root Cause Analysis Handbook, A Guide to Effective Incident Investigation. ABS Group, Inc., Risk & Reliability Division, Knoxville, TN.

10. Proposed Revisions to Regulatory Text

a. Definitions (§ 68.3)

EPA is proposing to add a definition of "root cause" and modify the definition of "catastrophic release" in § 68.3.

b. Five-Year Accident History (§ 68.42)

EPA is proposing to amend paragraph (b) by adding a new subparagraph (b)(10) to require of incident investigation root cause categories to be reported. Current subparagraphs (b)(10) and (b)(11) will become subparagraphs (b)(11) and (b)(12), respectively.

c. Hazard Review (§ 68.50)

EPA is proposing to amend subparagraph (a)(2) by adding a phrase at the end to require the owner or operator to consider findings from incident investigations. This is similar to the revision proposed for Program 3 facilities in § 68.67(c)(2).

d. Incident Investigation (§§ 68.60 and 68.81)

EPA is proposing to revise § 68.60, which is applicable to Program 2 processes, and § 68.81, which is applicable to Program 3 processes, by revising paragraph (a) to add subparagraphs (a)(1) and (a)(2) to better clarify the scope of incidents that must be investigated. Subparagraph (a)(1) applies to an incident that resulted in a catastrophic release and clarifies that the owner or operator must investigate the incident even if the process involving the regulated substance is destroyed or decommissioned. Subparagraph (a)(2) applies to a near-miss, which is an incident that could reasonably have resulted in a catastrophic release. EPA is also removing the phrase "of a regulated substance" from paragraph (a) because it is duplicative. The definition of catastrophic release refers to releases of regulated substances.

EPA is also proposing to add a new paragraph (c) to § 68.60 requiring that an incident investigation team be established and consist of at least one person knowledgeable in the process involved and other persons with appropriate knowledge and experience to thoroughly investigate and analyze the incident. This is similar to the requirement in § 68.81(c) for Program 3 processes. Current paragraphs (c) through (f) would become paragraph (d) through (g).

EPA is also proposing to make changes to the new paragraph (d) in § 68.60 and current paragraph (d) in § 68.81 to revise the incident

investigation report requirements. EPA is proposing to change the word “summary” to “report” and require facility owners or operators to complete incident investigation reports within 12 months unless the implementing agency approves, in writing, an extension of time.

Furthermore, EPA is proposing to amend and add new subparagraphs in the new paragraph (d) in § 68.60 and current paragraph (d) in § 68.81 requiring additional elements in an incident investigation report. EPA is proposing to:

- Revise paragraph (d)(1) to require the time and location of the incident in the investigation report;
- Revise paragraph (d)(3) to specify that the description of the incident be in chronological order and provide all relevant facts;
- Add new paragraph (d)(4) to require that the investigation report include the name and amount of the regulated substance involved in the release or near miss and the duration of the event;
- Add paragraph (d)(5) to require a description of the consequences, if any, of the incident;
- Add paragraph (d)(6) to require a description of emergency response actions taken;
- Renumber current paragraph (d)(4) to (d)(7) and require additional criteria related to the factors contributing to the incident, including the initiating event, direct and indirect contributing factors, and root causes. Add language to new paragraph (d)(7) to require that root causes must be determined through the use of a recognized method.
- Renumber the current paragraph (d)(5) to (d)(8) and add language to require a schedule for addressing recommendations resulting from the investigation to be included in the investigation report.

Finally, EPA is proposing to amend the current paragraph (f) which would be the new paragraph (g) to add the word incident before investigation and change “summaries” to “reports” for consistency.

e. Process Hazard Analysis (PHA) (§ 68.67)

EPA is proposing to add subparagraph (c)(2) to require the owner or operator to address findings from incident investigations, as well as any other potential failure scenarios (e.g., incidents that occurred at other similar facilities and or processes, failure mechanisms discovered in literature or from other sources of information). This is similar to the revision for Program 2 facilities in § 68.50(a)(2).

f. Updates (§ 68.190)

EPA is proposing to amend paragraph (c) to require that the owner or operator report any accidents covered by § 68.42

and conduct incident investigations required under §§ 68.60 and/or 68.81 prior to de-registering a process or stationary source that is no longer subject to the RMP rule.

11. Alternative Options

EPA considered limiting these requirements to the original universe of Program 3 processes that existed before OSHA changed its PSM retail exemption. Accidents occur at a higher frequency in these processes as compared to processes covered in Program 2. However, with the shift of many Program 2 processes into Program 3 due to OSHA’s revised policy on the PSM retail facility exemption, most of the accidents at remaining Program 2 processes occur at publicly owned water and wastewater treatment facilities that are not in Program 3 because they are not subject to OSHA PSM. State and local government employees at facilities in states under Federal OSHA authority are not covered by the OSHA PSM standard unlike state and local government employees at facilities in states with OSHA approved State Plans. These processes pose the same risk as the publicly owned water/wastewater treatment processes that are in Program 3. EPA decided that there was little justification for limiting the proposed requirements to the changed universe of Program 3 processes after the OSHA retail exemption change; there are fewer than six RMP reportable accidents a year at remaining Program 2 processes. Although the alternative would be slightly less burdensome on the regulated community, it would also likely prevent fewer accidents than the proposed approach. EPA seeks comment on the alternative approach and whether there are any other alternative options that EPA should consider prior to issuing a final action.

B. Third-Party Compliance Audits

In addition to strengthening the incident investigation requirements, EPA is proposing to strengthen the RMP rule’s compliance audit provisions to require independent third-party compliance audits after an accident or findings of significant non-compliance by an implementing agency for stationary sources with Program 2 and/or Program 3 processes. Incident investigations often reveal that these facilities have deficiencies in some prevention program requirements related to that process. Compliance audits entail a systematic evaluation of the full prevention program for all covered processes. As described below, in some cases, self-auditing may be insufficient to prevent accidents,

determine compliance with the RMP rule’s prevention program requirements, and ensure safe operation. Stationary sources that have had accidents and/or substantial non-compliance with Risk Management Program requirements pose a greater risk to the surrounding communities. EPA therefore believes it is appropriate to require such stationary sources to undergo objective auditing by competent and independent third-party auditors. Such independent third-party auditing can assist the owners and operators, EPA (or the implementing agency), and the public to better determine whether the procedures and practices developed by the owner and/or operator under subparts C and/or D of the RMP rule (i.e., the prevention program requirements) are adequate and being followed.

EPA and the CSB have cited poor compliance audits as a contributing factor to the severity of past chemical accidents. The CSB identified a lack of rigorous compliance audits as a contributing factor behind the March 23, 2005 explosion and fire at the BP Texas City Refinery in Texas City, Texas.⁷⁰ This explosion and fire killed 15 people, injured another 180, led to a shelter-in-place order that required 43,000 people to remain indoors, and damaged houses as far away as three-quarters of a mile from the refinery.

A CSB investigation of the July 2009 fire and explosion at the Citgo Corpus Christi Refinery found that Citgo had never conducted a safety audit of hydrofluoric acid (HF) alkylation operations at either of its U.S. refineries equipped with HF alkylation units pursuant to recommendations in API Recommended Practice 751, Safe Operation of HF Alkylation Units.⁷¹ The CSB recommended that within 60 days, Citgo complete a third-party audit of all Citgo HF alkylation unit operations in the United States (Corpus Christi, Texas and Lemont, Illinois) in accordance with API Recommended Practice 751. The CSB also specified qualifications for the selected lead auditor including extensive knowledge of HF hazards, HF alkylation units, and API 751.

The CSB found that facility PSM audits failed to detect PSI and operating procedure deficiencies that contributed to the November 2003 chlorine release at DPC Enterprises, L.P. in Glendale,

⁷⁰ CSB. March 2007. Investigation Report: Refinery Explosion and Fire, BP, Texas City, Texas, March 23, 2005. Report No. 2005-04-I-TX. <http://www.csb.gov/assets/1/19/CSBFinalReportBP.pdf>.

⁷¹ CSB. December 9, 2009. Urgent Recommendations to Citgo. <http://www.csb.gov/csb-issues-urgent-recommendations-to-citgo-finds-inadequate-hydrogen-fluoride-water-mitigation-system-during-corpus-christi-refinery-fire-last-july/>.

Arizona.⁷² The CSB recommended that DPC use a qualified, independent auditor to evaluate DPC's PSM and Risk Management Programs against best practices and implement audit recommendations in a timely manner at all DPC chlorine repackaging sites.

The CSB also found numerous auditing deficiencies following the January 2008 explosion at Bayer CropScience, LP, in Institute, West Virginia.⁷³ The CSB recommended that Bayer commission an independent human factors and ergonomics study of all Institute site PSM and Risk Management Program covered process control rooms to evaluate the human-control system interface, operator fatigue, and control system familiarity and training.

EPA has required third-party audits in enforcement settlement agreements. For example, EPA found multiple occasions of noncompliance with the Risk Management Program requirements at Tyson Foods, Inc. facilities through a series of inspections and information requests. Dating back to October 2006, violations included failures to follow the general industry standards to test or replace safety relief valves, improperly co-located gas-fired boilers and ammonia machinery, as well as failures to abide by the RMP rule's prevention program and reporting requirements. As part of a 2014 consent decree, Tyson Foods, Inc. agreed, in addition to paying a penalty of \$3.95 million, to conduct pipe-testing and third-party audits of its ammonia refrigeration systems to improve compliance with Risk Management Program requirements at all 23 of the company's facilities in four Midwestern states.⁷⁴

In March 2015, EPA Region 1 issued an administrative order on consent to Mann Distribution LLC and 3134 Post Road LLC (Respondents) regarding Resource Conservation and Recovery Act (RCRA) and CAA 112(r)(1) (the "general duty clause") violations found during an April 4, 2013 inspection at a chemical distribution facility in Warwick, Rhode Island.⁷⁵ Like the Risk

Management Program requirements, section 112(r)(1) of the CAA addresses safe operation and prevention of accidental releases. Unsafe conditions found during the inspection included, among other things, failure to have a fire suppression system, failure to inspect a fire alarm, co-location of incompatible chemicals, and many RCRA generator violations. The facility also had a prior history of non-compliance. The order requires Respondents to implement an independent third-party inspection program, in addition to imposing other compliance requirements.

The proposed independent third-party compliance audit requirements include a definition of "third-party audit" in § 68.3; modifications to existing §§ 68.58 and 68.79 to specify when a third-party audit must be performed; and the requirements for third-party auditors and third-party audits in new §§ 68.59 and 68.80. EPA is proposing to require third-party compliance audits to be conducted at stationary sources following an accident meeting the five-year accident history criteria in § 68.42(a). EPA is also proposing a provision to allow an implementing agency to require a third-party audit be performed at a facility under certain circumstances that suggest a heightened risk for an accident. These circumstances are: Non-compliance with the Prevention Program requirements of subpart C (Program 2) or subpart D (Program 3), including non-compliance with the competency, independence, or impartiality criteria of § 68.59(b) or § 68.80(b) regarding a previous third-party audit. All other stationary sources with Program 2 and Program 3 processes will continue to follow the current compliance audit requirements of §§ 68.58 and 68.79.

Sections 68.58 and 68.79 of the RMP regulation (Program 2 and Program 3 Compliance Audits) require owners or operators of stationary sources with processes subject to Program 2 or Program 3 requirements to audit compliance with the provisions of subpart C (Program 2 Prevention Program requirements) or subpart D (Program 3 Prevention Program requirements) at least every three years. The purpose of the compliance audits is to verify that the procedures and practices developed under subparts C and D of the RMP rule are adequate and being followed. These compliance audit provisions are similar to language to that is found in 29 CFR 1910.119(o) of the OSHA PSM standard. Sections 68.58 and 68.79 of the RMP regulation and

1910.119(o) of the OSHA PSM standard require that the compliance audit be conducted by at least one person knowledgeable in the process, that audit findings be addressed promptly, and that a report be generated documenting the findings of the audit.

Currently, neither EPA nor OSHA requires employers to use independent third-parties in conducting compliance audits. However, third-party compliance auditors exist, both the RMP rule and the PSM standard permit their use, and they are utilized by some of the Risk Management Program and PSM regulated community, both voluntarily, and pursuant to enforcement settlement agreements.

EPA discussed the potential to use independent third-party auditors for Risk Management Program compliance audits, in the preamble of the 1996 final RMP rule, as an issue for further consideration.⁷⁶ The preamble endorsed the concept of using third parties, citing the following reasons: To assist in rule compliance and oversight, provided that any third-party proposal not weaken the compliance responsibilities of facility owners or operators; offer cost savings and benefits to the industry, community, and implementing agencies that significantly exceed the cost of implementing the approach; lead to a net increase in process safety, particularly for smaller, less technically sophisticated facilities; and promote cost-effective Agency prioritization of oversight resources. At the time, EPA did not require the use of third-party auditors because the Agency believed that several key issues, including qualification criteria, certification procedures, liability, and others, needed to be investigated. Based on EPA's research of other third-party audit programs as well as the Agency's own experience with third-party auditors in the context of enforcement settlements, the Agency is proposing third-party audit requirements for the rule's accident prevention program.

Third-party audits are required by other Federal programs in appropriate existing rules, and rules currently in development, to ensure safe operations. The Administrative Conference of the United States (ACUS) "Third-Party Programs Final Report" (October 22, 2012) describes a variety of third-party programs in Food and Drug Administration (FDA), Consumer Product Safety Commission, and Federal Communications Commission

⁷⁶ Accidental Release Prevention Requirements: Risk Management Programs Under CAA Section 112(r)(7), 61 FR 31705, June 20, 1996. <http://www.gpo.gov/fdsys/pkg/FR-1996-06-20/pdf/96-14597.pdf>.

⁷² CSB. February 2007. Investigation Report: Chlorine Release, DPC Enterprises, L.P., Glendale, Arizona, November 17, 2003. Report No. 2004-02-I-AZ. http://www.csb.gov/assets/1/19/DPC_Report.pdf.

⁷³ CSB. January 2011. Investigation Report: Pesticide Chemical Runaway Reaction Pressure Vessel Explosion, Bayer CropScience LP, Institute, West Virginia, August 28, 2008. Report No. 2008-08-1-WV. http://www.csb.gov/assets/1/19/Bayer_Report_Final.pdf.

⁷⁴ Consent Decree, *United States v. Tyson Foods, Inc., et al.*, E.D. Miss., April 4, 2013. <http://www2.epa.gov/enforcement/tyson-foods-inc>.

⁷⁵ Finding of Violation and Administrative Order on Consent, In the Matter of Mann Distribution LLC

and 3134 Post LLC, Docket Nos. RCRA-01-2015-0028 and CAA-01-2015-0029, March 17, 2015.

regulations.⁷⁷ Further examples follow. The Bureau of Safety and Environmental Enforcement (BSEE) 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. BSEE's SEMS standard, 30 CFR part 250, subpart S, requires audits conducted by an independent third-party, subject to approval by BSEE, or by designated and qualified personnel if the employer implements procedures to avoid conflicts of interest. BSEE's SEMS II revisions to the standard require that, by June 4, 2015, the team lead for compliance audits must be independent and represent an accredited audit service provider. In the preamble to its SEMS II final rule, BSEE discussed its third-party-auditing requirements as follows:

Consistent audits performed by well trained and experienced auditors are critical to ensuring that SEMS programs are successfully implemented and maintained on the [Outer Continental Shelf] OCS. As a result, we are adopting industry best practices related to SEMS audits and auditor qualifications. Industry is already voluntarily adopting these practices in many deepwater operations. We believe that the application of these requirements to all OCS operations will result in more robust and consistent SEMS audits. (78 FR 20430, April 5, 2013.)

Independent third-party audits or other forms of compliance verification are also required by a variety of EPA rules to promote compliance with regulatory standards. One example of an EPA regulatory program with built-in third-party verification is the EPA CAA wood stoves rule.⁷⁸ Additionally, EPA is developing a rule for a third-party certification framework for the formaldehyde standards for composite wood products in accordance with the Formaldehyde Standards for Composite Wood Products Act in which Congress mandated that EPA promulgate rules that include a third-party testing and certification program.⁷⁹

⁷⁷ McAllister, Lesley. October 22, 2012. Third-Party Programs Final Report (2012). <http://www.acus.gov/report/third-party-programs-final-report>.

⁷⁸ Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters and Forced-Air Furnaces, 80 FR 13671, March 16, 2015. <http://www.gpo.gov/fdsys/pkg/FR-2015-03-16/pdf/2015-03733.pdf>.

⁷⁹ Formaldehyde; Third-Party Certification Framework for the Formaldehyde Standards for Composite Wood Products, 78 FR 34796, June 10, 2013. <http://www.gpo.gov/fdsys/pkg/FR-2013-06-10/pdf/2013-13254.pdf>. See also the Formaldehyde Standards for Composite Wood Products Act <https://www.gpo.gov/fdsys/pkg/BILLS-111s1660enr/pdf/BILLS-111s1660enr.pdf>.

Third-party verification and certification approaches are also employed in a variety of state regulatory settings. Examples include the CAA Title II vehicle inspection, maintenance, and emissions programs in authorized states,⁸⁰ California's mandatory greenhouse gas (GHG) reporting program,⁸¹ and Massachusetts Underground Storage Tank (UST) third-party inspection program.⁸²

There are advantages to third-party auditing, particularly with strong auditor competence and independence criteria. According to the CCPS, "Third-party auditors (typically, consulting companies who can provide experienced auditors) potentially provide the highest degree of objectivity."⁸³ ACUS, in its "Recommendation on Agency Use of Third-Party Programs to Assess Regulatory Compliance" (December 6, 2012) (Recommendation), found that, when well-designed and implemented per the Recommendation, "[s]everal broad reasons support the growing use of third-party programs in Federal regulation." Specifically, ACUS found that

. . . Federal regulatory agencies are faced with assuring the compliance of an increasing number of entities and products without a corresponding growth in agency resources. Third-party programs may leverage private resources and expertise in ways that make regulation more effective and less costly. In comparison with other regulatory approaches, third-party programs may also enable more frequent compliance assessment and more complete and reliable compliance data.

A leading scholar on regulatory third-party programs likewise found that, when well-designed and implemented, "third-party verification could furnish

⁸⁰ See, e.g., Missouri Dept. of Nat. Resources and Missouri State Highway Patrol, First Annual Oversight Report of the Decentralized Gateway Vehicle Inspection Program (2008). http://www.dnr.mo.gov/gatewayvip/docs/enforcement_rpt.pdf.

⁸¹ Cal. Code of Regs. Accreditation Requirements for Verification Bodies, Lead Verifiers, and Verifiers of Emissions Data Reports and Offset Project Data Reports. tit. 17 § 95132(b)(4) (2010); see also Cal. Code of Regs. tit. 17 § 95132(b)(1) (describing the firm requirement of having a lead verifier); Cal. Code of Regs. tit. 17 § 95132(b)(2) (2010) (describing the lead verifier requirements) and Cal. Code of Regs. tit. 17 § 95132(b)(1). <https://govt.westlaw.com/calregs/Document/I047B3A909A3011E4A28EDDF568E2F8A2?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=%28sc.Default%29>.

⁸² MassDEP. 2015. UST Inspection Program. <http://www.mass.gov/eea/agencies/massdep/toxics/ust/third-party-ust-inspection-program.html>.

⁸³ CCPS. March 2007. Guidelines for Risk Based Process Safety. <http://www.aiche.org/ccps/resources/publications/books/guidelines-risk-based-process-safety>.

more and better data about regulatory compliance" while providing additional compliance and resource savings benefits.⁸⁴

An "independent third-party" is a private auditor, inspector, or other type of verifier external to the facility. "Independent third-party" excludes the regulated entity, which is the first party (e.g., the stationary source and its parent company and subsidiaries), second parties within the firm's industry or business community with whom the regulated entity has a supply-chain relationship, and third parties that are not independent of the first party, which may include contractors, consultants, or purchasers of the facility's goods or services.⁸⁵ An independent third-party program should not be confused with a second party program in which a regulated source employs a contractor or consultant, even when the contractor is a separate legal entity from the regulated facility and highly qualified. If a regulated source provides direct or indirect control over the contractor or consultant preparing the audit report, including controlling the report's scope or findings, or has other non-audit relationships with the auditor, then the auditor is not a true independent third-party. This is important because when developing a third-party audit program, auditor independence can be critical to the success of the program.

Third-party compliance audit programs should also establish criteria and standards for auditor independence. As documented in the ACUS Recommendation on Agency Use of Third-Party Programs to Assess Regulatory Compliance (December 6, 2012),⁸⁶ the ACUS Third-Party Programs Final Report (October 22, 2012), and the McAllister law review article, auditor independence is critical to ensuring accurate and reliable independent third-party auditing.⁸⁷

The literature on designing independent third-party programs includes peer-reviewed empirical studies emphasizing the importance of

⁸⁴ Lesley K. McAllister. Jan. 2012. Regulation by Third-Party Verification. 53 B.C. L. Rev. 1, 21–26. <http://lawdigitalcommons.bc.edu/bclr/vol53/iss1/1/>.

⁸⁵ Lesley K. McAllister. Jan. 2012. Regulation by Third-Party Verification. 53 B.C. L. Rev. 1, 22–23 at p. 37.

⁸⁶ ACUS; Administrative Conference Recommendation 2012–7; Agency Use of Third-Party Programs to Assess Regulatory Compliance (Adopted December 6, 2012) at 3–4. <https://www.acus.gov/recommendation/agency-use-third-party-programs-assess-regulatory-compliance>.

⁸⁷ See, e.g., Lesley K. McAllister. Jan. 2012. Regulation by Third-Party Verification. 53 B.C. L. Rev. 1, pp. 3, 39–40.

establishing criteria and features for auditor independence to promote accurate audit reports, including those summarized briefly below. While it is not necessary that all audits be conducted only by independent third parties, when independent third-party auditing is necessary and appropriate, the literature indicates that, without sufficient safeguards to ensure auditor independence, auditors are more likely to provide lenient or biased audit reports that can fail to accurately identify problems and violations by the regulated entity.

One such study is a randomized control design field experiment in the State of Gujarat in India.⁸⁸ This study revealed weaknesses in the existing third-party regulatory audit system and the potential for a series of market-based alterations to dramatically improve auditor accuracy. In India, Gujarat Pollution Control Board regulates more than 20,000 industrial plants. From the universe of audit-eligible plants located in two populous and heavily polluted industrial regions, the researchers identified a study sample of 473 randomly-selected plants, stratified by region. Half of the plants were randomly assigned into a control group. The other half of the plants, also randomly assigned, were informed by the State of changes to their audit regulation that included the following: Plants would be randomly assigned auditors they were required to use (*i.e.*, they could no longer choose their own auditors); auditors would be paid from a central pool rather than by the plant for which they worked; auditor fees were set in advance at a flat rate (high enough to cover pollution measurement and give the auditor a modest profit); a random sample of each auditor's pollution readings would be verified with follow-up visits to the audited plants by an independent technical agency; in year two of the experiment, the third-party auditors were informed that their pay would be linked to their reporting accuracy as measured by the technical agency's follow-up visits. The researchers found that, under the status quo system, the third-party auditors systematically reported false pollution levels just below the applicable regulatory standard (also known as strategic misreporting) but the experimental changes significantly improved the truthfulness of the third-party auditors' reports, even for auditors operating in both markets who audited

firms in both the control and treatment groups. Also, and importantly, once the plants understood that their auditors would henceforth be reporting more accurately to the State, they reduced their actual pollution emissions.

A pair of 2013 studies of independent third-party vehicle emission testing in New York also considered factors impacting third-party independence. This research was based on millions of emission test results from thousands of test facilities.⁸⁹ The authors' findings include that there is a relationship between testing facilities' opportunities to "cross sell" other products and services to car owners and the test results. The researchers found that, in pursuit of customer loyalty, facilities with more cross-selling opportunities were incentivized to "pass" cars that facilities with fewer cross-selling opportunities would not.⁹⁰

Further evidence suggests that many, if not most, of some types of financial audits are flawed due to insufficient auditor competence, independence, and/or lack of public transparency. Third-party auditing is a linchpin of financial reporting. But when the Public Company Accounting Oversight Board (PCAOB) released its third annual report on audits of broker-dealers registered with the Securities and Exchange Commission (SEC), the PCAOB found audit deficiencies in portions of 70 of the 90 audits. Independence problems were found in 21 on the 90 audits where, contrary to SEC rules, firms helped with the bookkeeping or preparation of the financial statements they audited.⁹¹

In 2014, the New York State Department of Financial Services (NYDFS) fined PricewaterhouseCoopers ("PwC") Regulatory Advisory Services \$25 million, suspended it for 24 months from accepting consulting engagements at regulated financial institutions, and required it to implement a series of reforms after PwC improperly altered a

report submitted to regulators on sanctions and anti-money laundering compliance at Bank of Tokyo Mitsubishi (BTMU). Under pressure from BTMU executives who received an advance draft of its report to review, PwC edited the report, and in the final version of the report which was sent to regulators, a number of key provisions were deleted or otherwise significantly edited.⁹²

These recommendations, studies, and reports emphasize the importance of designing independent third-party programs to embody auditor independence by building in appropriate criteria and processes for third-party independence. They identify a range of available design elements to promote such independence. EPA consulted this literature in developing today's proposed independent third-party compliance auditing program.

Industry recognizes the benefits of third-party auditing programs and have established programs and standards for third-party audits for some types of operations, many of which are also subject to the RMP rule.⁹³ These programs also demonstrate industry's understanding that, in appropriate circumstances, third-party auditing can provide benefits and results above those available through self-auditing alone. In addition, these programs and standards illustrate the range and variety of structural design elements that can be, and are, employed in third-party programs to address auditor competence and independence, auditor certification, the audit process, auditor reporting, recordkeeping, and the public disclosure of audit results and associated information.

Some industry groups, such as SOCMA and the Center for Offshore Safety (COS), require certain types of third-party audits for their members. SOCMA members are U.S. companies engaging in the manufacturing or handling of synthetic and organic chemicals. Active members have a mandatory requirement to participate in ChemStewards®, a program intended to promote continuous performance improvement in batch chemical manufacturing. The program offers a three-tiered approach to participation. Each tier includes a third-party verified

⁸⁸ Victor Manuel Bennett, et al. August 2013. Customer-Driven Misconduct How Competition Corrupts Business Practices. *Management Science* Vol. 59, No. 8, pp. 1725–1742. <http://www.hbs.edu/faculty/Pages/item.aspx?num=43347> and Lamar Pierce and Michael W. Toffel. Sept.–Oct. 2013. The Role of Organizational Scope and Governance in Strengthening Private Monitoring. *Organization Science* Vol. 24, No. 5, pp. 1558–1584.

⁸⁹ Lamar Pierce and Michael W. Toffel. Sept.–Oct. 2013. The Role of Organizational Scope and Governance in Strengthening Private Monitoring. *Organization Science* Vol. 24, No. 5, at 1575. <http://www.hbs.edu/faculty/Publication%20Files/11-004.pdf>.

⁹¹ PCAOB. Aug. 18, 2014. Third Progress Report on PCAOB Inspections of Broker and Dealer Auditors Shows Continued High Number of Findings. http://pcaob.us/Inspections/Documents/BD_Interim_Inspection_Program_2014.pdf.

⁹² Press Release: NYDFS Announces PwC Regulatory Advisory Services Will Face 24-Month Consulting Suspension; Pay \$25 Million; Implement Reforms After Misconduct During Work At BTMU. Aug. 18, 2014. <http://www.dfs.ny.gov/about/press/pr1408181.htm>.

⁹³ EPA has not formally evaluated these programs and standards or their outcomes. This discussion is not a formal Agency review or endorsement of them.

⁸⁸ Esther Duflo et al., *Truth-Telling By Third-Party Auditors And The Response of Polluting Firms: Experimental Evidence From India*, 128 Q. J. of Econ. 4 at 1499–1545 (2013).

management system.⁹⁴ The COS strategy for promoting safety and protection of the environment includes third-party auditing and certification of the COS member company's SEMS and accreditation of the organizations (Audit Service Providers) providing the audit services. The third-party audits are intended to ensure that COS member companies are implementing and maintaining SEMS throughout their deepwater operations.⁹⁵

ACC members are required to participate in a Responsible Care management system described by ACC as including, identifying, and acting to address potential hazards and risks associated with their products, processes, distribution and other operations. One of Responsible Care's program elements is a product safety code consisting of eleven management practices through which chemical manufacturers are encouraged to evaluate, demonstrate and continuously improve their product safety performance while making information about chemical products available to the public.⁹⁶ Responsible Care also has a process safety code consisting of seven management practices through which chemical manufacturers commit to safe operation of their chemical processes. According to ACC,

the Responsible Care Process Safety Code differs from regulatory standards that, by necessity, focus on process safety at an individual facility. ACC contends that the Process Safety Code is more universal—it addresses issues across a division or corporation, and includes a company commitment to set process safety expectations, define accountability for process safety performance and allocate adequate resources to achieve performance expectations.⁹⁷

The Responsible Care management system process includes mandatory certification, by auditors described by ACC as accredited and independent, to ensure the program participants have a structure and system in place to measure, manage and verify performance.⁹⁸

⁹⁴ SOCMA. 2015. See <http://www.socma.com/ChemStewards/>.

⁹⁵ COS. 2013. See <http://www.centerforoffshoresafety.org/auditInfo.html>.

⁹⁶ ACC. 2013. Responsible Care Product Safety Code. <http://responsiblecare.americanchemistry.com/Responsible-Care-Program-Elements/Product-Safety-Code>.

⁹⁷ ACC. 2013. Responsible Care Process Safety Code. <http://responsiblecare.americanchemistry.com/Responsible-Care-Program-Elements/Process-Safety-Code>.

⁹⁸ Certification must be renewed every three years, and companies can choose one of two certification options. RCMS® certification in

The API, in collaboration with industry partners, has developed a Process Safety Site Assessment Program (PSSAP). According to API, the program is intended to provide for the assessment of API member sites' process safety systems by third-party teams of independent, industry-qualified process safety expert assessors. Using industry-developed protocols, API describes the process safety site assessments as evaluating the quality of written programs and effectiveness of field implementation for the following process safety areas that will be evaluated: Process Safety Leadership; MOC; Mechanical Integrity (focused on fixed equipment); Safe Work Practices; Operating Practices; Facility Siting; Process Safety Hazards; and HF Alkylation/RP 751. The assessment teams produce reports that identify observations that site personnel should consider further but do not provide written recommendations.⁹⁹

1. Applicability of Third-Party Audit Requirements

Currently, there are approximately 12,000 stationary sources with Program 2 and/or Program 3 processes. The proposed rule would not require all of these RMP facilities to use third-party auditors when conducting compliance audits under subpart C or D. Instead, EPA is proposing that owners or operators be required to perform third-party compliance audits at their facilities only under the following two conditions.

Under the first condition, a third-party compliance audit would be required in lieu of an internal compliance audit if there has been an accidental release from an RMP facility meeting the five-year accident history criteria as described in § 68.42(a). The existing five-year accident history criteria include accidental releases from covered processes that resulted in deaths, injuries, or significant property damage on-site; or deaths, injuries, property damage, evacuations, sheltering in place, or environmental damage offsite. EPA and other implementing agencies would learn

intended to verify that a company has implemented the Responsible Care Management System. RC14001® certification combines Responsible Care and ISO 14001 certification. See <http://responsiblecare.americanchemistry.com/Responsible-Care-Program-Elements/Management-System-and-Certification> and <http://responsiblecare.americanchemistry.com/Responsible-Care-Program-Elements/Process-Safety-Code/Responsible-Care-Process-Safety-Code-PDF.pdf>.

⁹⁹ API. 2015. PSSAP. <http://www.api.org/certification-programs/process-safety-site-assessment-programs>.

about accidents meeting the five-year accident history criteria because such accidents must be included within a facility's RMP within six months of the accident, in accordance with § 68.195(a). Following such an accident, the RMP facility's owner or operator would be required to engage a third-party auditor to conduct a compliance audit for the source. Pursuant to §§ 68.58(h) and 68.79(h), the third-party audit and associated report shall be completed, and submitted to the implementing agency pursuant to § 68.59(c)(3) or § 68.80(c)(3) as follows, unless a different timeframe is specified by the implementing agency: within 12 months of when the third-party audit is required pursuant to § 68.58(f) and/or (g) or § 68.79(f) and/or (g); or within three years of completion of the previous compliance audit, whichever is sooner.

The second condition is if an implementing agency has made a determination that a third-party audit at an RMP facility is necessary, based on information about the facility or a prior third-party audit at the facility. Information about an RMP facility that would lead to such a determination could be obtained from sources including an inspection of a facility by the implementing agency's representatives. Relevant information to support the determination may include evidence of significant non-compliance with the prevention program requirements of subpart C or D of part 68. Significant non-compliance includes deficiencies relating to a previous third-party audit (*i.e.*, failure to meet the competency, independence, or impartiality criteria of § 68.59(b) or § 68.80(b)).

If such a determination is made, the implementing agency must provide a written notice to the owner or operator of the facility stating the reasons for the determination that a third-party audit must be performed. The proposed rule provides for an opportunity for the owner or operator to provide information and data to the implementing agency and to consult with the implementing agency about the need to perform a third-party audit at the facility source before the implementing agency representatives make a final determination. EPA seeks comment on these proposed third-party audit applicability requirements.

2. Alternative Options for Third-Party Audit Applicability Criteria

EPA considered requiring third-party compliance audits for a larger universe of regulated facilities. We considered whether to require third-party

compliance audits for all facilities with processes subject to Program 3 requirements at least every three years. We also considered whether to require third-party compliance audits for all facilities with processes subject to Program 2 or Program 3 requirements every three years. However, because EPA views facilities that have had accidents or significant non-compliance as presenting higher risks to surrounding communities, the Agency is proposing to limit the applicability of this provision to these facilities.

EPA seeks comments and suggestions on the proposed third-party audit applicability requirements and whether to eliminate or further limit applicability of this provision. For example, EPA could consider limiting the provision to only Program 3 facilities that have had accidents or to only facilities that have had major accidents with offsite impacts. EPA seeks comments on this alternative approach and to define and characterize "major accidents with offsite impacts." Alternatively, EPA could revise this provision to reduce its impact on small businesses. When providing suggested alternatives, please include suggestions for how to improve compliance with auditing provisions.

EPA also seeks comment on whether there are other criteria that could require RMP facilities to perform third-party compliance audits. For example, a third-party audit could be required if an owner or operator of a facility were to learn or know of a condition or conditions at its facility suggesting a concern for, or potential risk of, future accidents. Such conditions would need to be objective and reasonably ascertainable by the facility owners or operators, the implementing agency, and the public.

EPA also seeks comment on the benefits and costs of proposing additional requirements for third-party compliance audits and recommendations for appropriate conditions suggesting a concern for, or potential risk of, future accidents.

3. Proposed Third-Party Audit Requirements

a. Compliance Audit (§§ 68.58 and 68.79)

In order to prevent accidents and ensure compliance with part 68 requirements, EPA is proposing to require certain RMP facilities to perform third-party audits. The proposed changes to §§ 68.58 and 68.79 would add this requirement for both Program 2 and Program 3 processes, under certain conditions.

EPA proposes new paragraphs §§ 68.58(f) and 68.79(f) which describe when a third-party audit is required. Pursuant to these paragraphs, the next required compliance audit for an RMP facility shall be a third-party audit when one of the following conditions apply: (1) An accidental release, meeting the criteria in § 68.42(a), from a covered process has occurred; or (2) an implementing agency requires a third-party audit based on non-compliance with the requirements of this subpart, including when a previous third-party audit failed to meet the competency, independence, or impartiality criteria of § 68.59(b) or § 68.80(b). The purpose is to help reduce the risk of future accidents by requiring an objective auditing process to determine whether the owner or operator of the facility is effectively complying with the prevention program requirements of part 68.

EPA proposes new paragraphs §§ 68.58(g) and 68.79(g), Implementing agency notification and appeals, which describe the procedure for when a third-party audit is required by an implementing agency. Pursuant to these paragraphs, if an implementing agency makes a preliminary determination that a third-party audit is necessary, the implementing agency will provide written notice to the facility owner or operator stating the reasons for the implementing agency's determination. The owner or operator has an opportunity to provide information to, and to consult with, the implementing agency. The implementing agency then provides a final determination to the owner or operator. If the final determination requires a third-party audit, the owner or operator shall comply with the requirements of § 68.59 and/or § 68.80, but also may choose to appeal the final determination. After the appeal is considered, the implementing agency will provide a written, final decision on the appeal to the owner or operator.

EPA proposes new paragraphs §§ 68.58(h) and 68.79(h), which describe the schedule for conducting third-party audits. The audit and associated report shall be completed, and submitted to the implementing agency as follows, unless a different timeframe is specified by the implementing agency: (1) Within 12 months of when any third-party audit is required; or (2) within three years of completion of the previous compliance audit, whichever is sooner.

b. Third-Party Audits (§§ 68.59 and 68.80)

EPA is proposing new §§ 68.59 and 68.80, which include the requirements

for both third-party audits, and third-party auditors.

Sections 68.59(a) and 68.80(a) state that owners or operators shall engage a third-party auditor to evaluate compliance with the provisions of this subpart in accordance with the requirements of this section when the criteria of § 68.58(f) or § 68.79(f) are met.

EPA is proposing, in §§ 68.59(b) and 68.80(b), that owners and operators of RMP facilities subject to these requirements determine and document the competency, independence, and impartiality of their auditors. These sections require that the facility owners or operators be responsible for self-determining and documenting that their third-party auditors are competent and independent pursuant to the criteria listed in § 68.59(b)(1) through (3) or § 68.80(b)(1) through (3), by requiring specific provisions and safeguards in their contracts and relationships with their third-party auditors.

EPA seeks comment as to whether the requirement that owners and operators of RMP facilities be responsible for determining and documenting the competency, independence, and impartiality of their auditors is appropriate.

Alternative Option for Third-Party Auditor Selection and Accreditation

EPA also considered an alternative approach, such as requiring auditors to have accreditation from a recognized auditing body or EPA. Most independent third-party regulatory compliance verification programs require the qualifying third-parties to apply for and receive accreditation from a qualified external party to ensure competency and independence. Such an external accreditation approach can add rigor to the process of confirming the competence and independence of the auditors but it also adds procedures and costs. Therefore, while EPA is not proposing that the Agency itself will accredit third-party auditors, EPA seeks comment on whether to require additional accreditation criteria and how to best establish and structure an accreditation program within the context of the RMP rule.

Auditor Competence

Third-party compliance verification programs should establish criteria and standards for auditor competence. Typically, such criteria and standards combine specified minimum levels of education, knowledge, experience, and training. EPA is proposing to require in proposed §§ 68.59(b)(1)(i) through (iv) and 68.80(b)(1) (i) through (iv) that third-party auditors be:

- Knowledgeable with the requirements of part 68;
- experienced with the facility type and processes being audited and the applicable recognized and generally accepted good engineering practices (RAGAGEP);
- trained or certified in proper auditing techniques; and
- be a licensed Professional Engineer (PE), or include a licensed PE on the audit team.

EPA is proposing to require a PE as part of the audit team in an attempt to identify competent auditors that also have an ethical obligation to perform unbiased work. EPA seeks comment on whether these criteria are appropriate and sufficient to ensure third-party auditors are competent to perform high-quality compliance audits. EPA also seeks comment on whether the proposal to require that a third-party auditor, or a member of the audit team, be a licensed PE is appropriate and whether there are enough licensed PEs to conduct third-party audits for the universe of facilities that may become subject to these requirements. Are there other qualifications who might be appropriate for RMP auditors in lieu of a PE?

As part of the SBAR Panel process, SERs suggested to the SBAR Panel that EPA consider substituting other qualified personnel such as: degreed chemists, degreed chemical engineers, Certified Safety Professionals (CSP), Certified Industrial Hygienists (CIH), Certified Fire Protection Specialists (CFPS), Certified Hazardous Materials Managers (CHMM), Certified Professional Environmental Auditors (CPEA) or Certified Process Safety Auditors (CPSA). SERs indicated that these credentials also include ethical obligations to provide sound independent advice. EPA also seeks comment regarding potentially relevant and applicable consensus standards and protocols that might apply to the audits and be built and/or incorporated by reference into the rules. These may include relevant and applicable American National Standards Institute, American Society for Testing and Materials International, European Committee for Standardization, International Organization for Standardization (ISO), and National Institute of Standards and Technology (NIST) standards.

Auditor Independence and Impartiality

Proposed §§ 68.59(b)(2)(i) through (vi) and 68.80(b) (2)(i) through (vi) set forth the independence and impartiality requirements for third-party auditors and audit teams. These include that third-party auditors:

- Act impartially when performing all third-party audit activities;
- receive no financial benefit from the outcome of the audit, apart from payment for the auditing services;
- not have conducted past research, development, design, construction services, or consulting for the owner or operator within the last 3 years;¹⁰⁰
- not provide other business or consulting services to the owner or operator, including advice or assistance to implement the findings or recommendations in an audit report, for a period of at least 3 years following submission of the final audit report;
- Ensure all personnel involved in the audit sign and date a conflict of interest statement; and
- ensure all personnel involved in the audit do not accept future employment with the owner or operator of the facility for a period of at least 3 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.

As part of the SBAR Panel process, SERs raised concerns about the extent of the independence criteria and suggested this might limit the availability of qualified auditors. Specifically, SERs asked how to apply the independence criteria to a company that employs personnel who previously worked for or otherwise engaged in consulting services with the facility. Audit firms with personnel who, before working for the firm, performed services for the owner or operator as an employee, contractor or consultant, meet the rule's independence criteria when such personnel do not participate on, manage, or advise the audit teams. Additionally, employees of an auditing firm are not prohibited from accepting future employment with the owner/operator as long as they were not directly involved in performing or managing the audit.

Another concern raised by SERs is ensuring that third-party auditors do not pose a terrorism concern or release information that could compromise facility security or CBI. EPA agrees that chemical facility security is a priority and seeks comments on the impacts a third-party auditor may have on a facility's security and whether there is a need to specify security protections or whether existing non-disclosure and contractual agreements should handle this independently.

EPA seeks comment on whether the proposed auditor independence criteria are appropriate and sufficient. If not, we seek comment on how best to adjust the

¹⁰⁰ For purposes of this requirement, consulting does not include performing or participating in third-party audits pursuant to § 68.59 or § 68.80.

criteria for maximum auditing effectiveness and efficiency, including comments or suggestions on how to provide more flexibility in the auditor independence criteria, or whether to eliminate the requirement for independence. EPA also seeks comments on whether the proposed 3-year timeframe to separate the audit from other business arrangements with the owner or operator is appropriate.

Furthermore, EPA is requesting comment on whether the proposed auditor independence criteria should be modified so as to not exclude a retired employee from auditing a former employer's facility if the employee's sole continuing financial attachment to the owner or operator is an employer-financed or employer-managed retirement plan. While EPA is concerned such attachments could provide the auditor with incentives to ensure the facilities they audit are not financially negatively impacted by their audits, it could also, as a practical matter, limit the available pool of otherwise qualified and competent auditors. EPA seeks comment on the potential magnitude of such incentives and how to address this concern in the rule.

Finally, EPA requests comment on whether to propose streamlined independence criteria for small facilities (*i.e.*, based on the size of the facility) including comments or suggestions on how to streamline the requirements.

Auditor Policies and Procedures

Proposed §§ 68.59(b)(3) and 68.80(b)(3), if finalized, would require that owner or operators of RMP regulated facilities ensure that third-party auditors have written policies and procedures to ensure that all personnel comply with the competency, independence, and impartiality requirements of these sections. EPA seeks comment on these proposed provisions.

Alternative Options for Auditor Qualifications

EPA considered including alternative options in the proposed rule for owners and operators of stationary sources who cannot, despite best efforts, find a third-party auditor meeting all of the independence criteria. Two specific options were considered.

Under the first option, owners and operators of RMP facilities, in addition to self-selecting their third-party auditors pursuant to the specified independence criteria, would also self-determine when it is impossible or impractical to hire such auditors and self-select their alternative auditors.

Under this option, the owner or operator would be required to inform the implementing agency and the public of the alternative auditors, which could be accomplished by providing and/or publicly posting information on the alternative auditors and how they were selected. The information could describe the steps taken to identify auditors meeting all of the rule's independence criteria, the identities and competencies of the alternative auditors, the regulatory independence criteria that the alternative auditors were unable to meet and why, and any steps taken to address or limit the impacts of the auditors' lack of independence on the outcomes and reliability of their audits.

Under the second option, owners and operators who, despite best efforts, could not find auditors meeting all the rule's independence criteria would be authorized to identify specific alternative auditors to the implementing agency and petition it for approval to engage those auditors. This approach would include a requirement for auditors not fully satisfying the rule's independence criteria to prepare and implement Conflict of Interest Mitigation Plans similar to those required by the California Air Resources Board (CARB) under its Regulation for the Mandatory Reporting of GHG Emissions,¹⁰¹ with associated reporting, recordkeeping, and due process procedures. Under this option, if, despite best efforts, an owner or operator cannot find a third-party auditor meeting all of the criteria in § 68.59(b) or § 68.80(b), the owner or operator would be required to request approval, in writing, to the implementing agency to use an alternative third-party auditor. The implementing agency would then be required, within a specified timeframe, to approve or disapprove the proposed request and provide notice of its decision to the owner or operator. The owner or operator's request to use an alternative third-party auditor would include a description of the owner or operator's efforts to find an independent third-party auditor, identification of the proposed alternative third-party auditor (including the same information required pursuant to this rule for a fully qualified auditor), identification of the specific independence requirements the proposed alternative third-party auditor meets and does not meet, and an organizational chart of the proposed alternative third-party auditor and related entities with brief descriptions

of the primary nature of the work each performs.

The owner or operator's request to use an identified alternative third-party auditor would also include a Conflict of Interest Mitigation Plan demonstrating the steps the auditor would take to mitigate its inability to fully meet the independence requirements in § 68.59(b) or § 68.80(b). These steps could include ensuring that any individual or organizational component of the auditor with conflicts of interest or impartiality concerns is removed from the audit and/or isolated from the individuals or organizational component conducting the audit, an explanation of how and why the amount and nature of work previously performed should not be deemed to undermine the auditing team's credibility and lack of bias, and descriptions of any other adjustments or circumstances taken to address actual or potential sources for conflicts of interest, with an appropriate certification signed and dated by a senior owner or operator official.

If, pursuant to this option, the implementing agency approves the alternative third-party auditor, it would provide written notice to the owner or operator and, upon receipt of the approval, the owner or operator may engage the alternative auditor to conduct the audit under this section. If the implementing agency does not approve the identified alternative auditor, the implementing agency would provide a written notice to the owner or operator stating the reasons for the decision. Within a specified timeframe after receipt of such written notice, the owner or operator would be required to submit the name of another proposed auditor for the implementing agency's consideration. In the alternative, the owner or operator would be able to appeal the implementing agency's decision pursuant to the applicable agency's processes.

EPA considered but did not propose other third-party auditor independence safeguards than those included in proposed § 68.59(b)(2) or § 68.80(b)(2). Examples include mandating the random assignment of auditors, paying them from a central pool of auditing funds, or requiring mandatory periodic auditor rotation after a specified period of time. Nor has EPA proposed provisions requiring owners and operators to provide advance notice to the implementing agency of third-party auditor site visits to enable the implementing agency to accompany and observe the third-party auditors on such

visits.¹⁰² EPA seeks comment on these alternative approaches.

EPA further seeks comment on whether there are any other alternative approaches to third-party auditor qualifications EPA should consider prior to issuing a final action. For example, EPA could, in the final rule, allow for audits to be performed by auditors with some potential conflicts of interest (e.g., employees of parent company, affiliates, vendors/contractors that participated in developing the facility's RMP, etc.) and/or allow a person employed at the facility who is a registered PE to conduct the audit. If such approaches are adopted in the final rule, the Agency could seek to place appropriate restrictions on auditors and auditing using third parties with less than full independence from their client facilities in an effort to increase confidence that the auditors will act appropriately when performing their activities under the RMP rule. The purposes of such provisions could include ensuring that auditor personnel who assess a facility's compliance with the RMP rule do not receive any financial benefit from the outcome of their auditing decisions, apart from their basic salaries or remuneration for having conducted the audits. EPA also specifically requests commenters to identify any supportive literature or data as EPA is presently not aware of literature or data showing that such provisions are effective in counteracting biases due to lack of impartiality or independence.

There may be other options, in addition to the approaches taken in the proposed third-party compliance auditing program or identified above, that can also increase owner or operator flexibility without compromising audit accuracy. EPA seeks comment on such alternative auditor/auditing approaches.

If non-independent or limited independence third-party auditing, second-party auditing, or enhanced self-auditing is authorized, EPA seeks comment on how best to structure such auditing to maximize auditor independence and accurate auditing outcomes given the lack of complete

¹⁰² Compare proposed 40 CFR 770.7(a)(3)(iv) of EPA's proposed Toxic Substances Control Act (TSCA) formaldehyde in wood products third-party program proposed rule: "(3) Responsibilities. EPA recognized Laboratory ABs must fulfill the requirements in paragraphs (b)(3)(i) through (xiii) of this section: . . . (iv) Upon request, allow EPA representatives to accompany its assessors during an on-site assessment to observe the audit of a TPC." Formaldehyde; Third-Party Certification Framework for the Formaldehyde Standards for Composite Wood Products, 78 FR 34796, June 10, 2013. <http://www.gpo.gov/fdsys/pkg/FR-2013-06-10/pdf/2013-13254.pdf>.

¹⁰¹ CARB. July 23, 2015. Verification of GHG Emissions Data Reports. <http://www.arb.ca.gov/cc/reporting/ghg-ver/ghg-ver.htm>.

independence. EPA also seeks suggestions for what steps a facility should be required to take if third-party auditors who meet the proposed independence and competence criteria are not available. If RMP facilities are allowed, in the final rule, to use enhanced self-auditing in lieu of independent third-party auditing, examples of the types of restrictions that could be placed on such self-auditing to potentially improve auditor impartiality and auditing outcomes appear in the *U.S. and CARB v. Hyundai Motor Company, et al.* Consent Decree.¹⁰³

Third-Party Audit Report

Proposed §§ 68.59(c) and 68.80(c), if finalized, would require owners or operators of stationary sources to ensure that their third-party auditors prepare and submit audit reports. Proposed §§ 68.59(c)(1) and 68.80(c)(1), if finalized, would include requirements for the scope and content of these reports, including a statement to be signed by the third-party auditor certifying that the third-party audit was performed in accordance with the requirements of subpart C or D. Proposed §§ 68.59(c)(1) and 68.80(c)(1), if finalized, would also require that the final third-party audit reports must identify any adjustments made by the third-party auditor to any draft third-party audit reports provided to the owners or operators for their review or comment. EPA believes that these provisions are important to minimize third-party compliance audit bias. EPA's intent in allowing for owners and operators to receive and comment on draft third-party compliance audit reports with these additional requirements is to promote factual and informative final third-party compliance audit reports without compromising their accuracy and independence. EPA seeks comment, however, on whether we should also require draft third-party compliance audit reports to be submitted to the implementing agency at the same time, or before, such reports are provided to the owners and operators and whether such a requirement would be further effective in minimizing potential third-party compliance audit bias.

Proposed §§ 68.59(c)(2) and 68.80(c)(2), if finalized, would include requirements for the retention of reports and records by the third-party auditors. Proposed §§ 68.59(c)(3) and 68.80(c)(3), if finalized, would require the audit

report to be submitted to the implementing agency at the same time, or before, it is provided to the owner or operator. Finally, EPA is proposing in §§ 68.59(c)(4) and 68.80(c)(4) that the audit report and related records cannot be claimed as attorney-client communications or as attorney work products even if the auditors are themselves, or are managed by or report to, attorneys. With respect to the attorney work product privilege, the audit report and related records are produced to document compliance rather than in anticipation of litigation, just like a monitoring report required by an air emission rule would not be produced in anticipation of litigation. With respect to the attorney-client communication privilege, the third-party auditor is arms-length and independent of the stationary source being audited. The auditor lacks an attorney-client relationship with counsel for the audited entity. Therefore, neither the audit report nor the records related to the audit report provided to the third-party auditor are attorney-client privileged (including documents originally prepared with assistance or under the direction of the audited source's attorney). EPA seeks comment on these proposed requirements including any legal concerns that may result from the provision that limits attorney-related privileges.

Other Owner or Operator Obligations

Proposed §§ 68.59(d)(1) and 68.80(d)(1), if finalized, would require owners or operators, as soon as possible, but no later than 90 days after receiving the final audit report, to determine an appropriate response to each of the findings in the audit report, and develop and provide to the implementing agency a findings response report. This findings response report would include: A copy of the final audit report; an appropriate response to each of the audit report findings; a schedule for promptly addressing deficiencies; and a statement, signed and dated by a senior corporate officer, certifying that appropriate responses to the findings in the audit report have been identified and deficiencies were corrected, or are being corrected, consistent with the requirements of subpart C or D of 40 CFR part 68. The requirement to determine appropriate responses to findings is similar to existing compliance audit requirements that require the owner or operator to "promptly determine and document an appropriate response to each of the findings of the compliance audit." EPA seeks comment on these proposed

requirements and whether we should provide flexibility on the timeframe for developing the findings response report.

EPA also considered prescribing a timeframe within which deficiencies must be corrected, rather than rely on "promptly" address deficiencies. However, EPA was unable to identify an appropriate timeframe given the variety of possible site-specific actions that an owner or operator may take to address audit findings. EPA seeks comment on whether to keep this approach or substitute a specific number of days and, if the latter, what is a reasonable time period to specify and why.

Proposed §§ 68.59(d)(2) and 68.80(d)(2), if finalized, would require the owner or operator to implement the schedule and address deficiencies identified in the audit findings response report, and document the action taken to address each deficiency, along with the date completed. Proposed §§ 68.59(d)(3) and 68.80(d)(3), if finalized, would require the owner or operator to provide a copy of documents required under paragraphs (d)(1) and (d)(2) to the owner or operator's audit committee of the Board of Directors, or other comparable committee, if one exists. EPA seeks comment on these proposed requirements.

Proposed §§ 68.59(e) and 68.80(e), if finalized, would require the owner or operator to retain records at the stationary source, including: the two most recent third-party audit reports, related findings response reports, documentation of actions taken to address deficiencies, and related records; and copies of all draft third-party audit reports. The owner or operator shall provide draft third-party audit reports, or other documents, to the implementing agency upon request. For proposed § 68.59(e) (Program 2 third-party audit recordkeeping provision), these requirements, if finalized, would not apply to any documents that are more than five years old (for Program 3 third-party audit records, as for the existing Program 3 compliance audits, the owner or operator would be required to retain records to support the two most recent audits). EPA seeks comment on these proposed requirements.

C. Safer Technology and Alternatives Analysis (STAA)

1. Meaning of STAA

Safer technology and alternatives refer to risk reduction strategies developed through analysis using a hierarchy of process risk management strategies (or hierarchy of controls), which consists of those which are inherent, passive,

¹⁰³ U.S. District Court of DC November 11, 2014. Decree of Consent *U.S. California Air Resources Board v. Hyundai et al.* <http://www2.epa.gov/sites/production/files/2014-11/documents/hyundai-kia-cd.pdf>.

active, and procedural.¹⁰⁴ This philosophy can be applied initially to all design phases and then continuously throughout a process's life cycle by identifying and assessing hazards and developing a control strategy. STAA includes concepts known as IST or inherently safer design (ISD), which are those strategies that permanently reduce or eliminate the hazards associated with materials and operations used in a process. IST, ISD, and inherent safety are interchangeable terms that are used in the literature and in the field. The four major inherently safer strategies are:

- Minimization—using smaller quantities of hazardous substances;
- Substitution—replacing a material with a less hazardous substance;
- Moderation—using less hazardous conditions or a less hazardous form, or designing facilities that minimize the impact of a release of hazardous material or energy; and
- Simplification—design facilities to eliminate unnecessary complexity and make operating errors less likely.

The hierarchy establishes that inherently safer options (*e.g.*, minimization, substitution, moderation, and simplification) are preferable and occupy the top of the hierarchy. Passive strategies (process and equipment design) are preferable to active ones such as engineering controls (automatic digital or mechanical system controls), which are preferable to procedures or administrative options (controls requiring human action). However, risk reduction of a process hazard may also be achieved by using a combination of strategies, known as layers of protection. EPA is proposing to require analysis of safer technology and alternatives as part of the PHA for a subset of Program 3 processes.

2. Inherently Safer Technology (IST)

A July 2010 DHS report prepared by the CCPS described IST as a philosophy and an iterative process, including eliminating a hazard, reducing a hazard, substituting a less hazardous material, using less hazardous process conditions, and designing a process to reduce the potential for, or consequences of, human error, equipment failure, or intentional harm.¹⁰⁵ It stated that there

¹⁰⁴ CCPS. 2009. *Inherently Safer Chemical Processes: A Life Cycle Approach*, 2nd ed., American Institute of Chemical Engineers, CCPS New York, Wiley.

¹⁰⁵ CCPS. July 2010. *Final Report: Definition for IST in Production, Transportation, Storage, and Use*. Prepared by: CCPS, American Institute of Chemical Engineers, New York, New York for Chemical Security Analysis Center, Science & Technology Directorate, U.S. DHS Aberdeen Proving Ground, MD. <http://www.aiche.org/ccps/documents/definition-inherently-safer-technology>.

is no clear boundary between IST and passive, active, and procedural risk management strategies. CCPS further stated that ISTs are relative and can only be described as inherently safer when compared to a different technology, including a description of the hazard or set of hazards being considered, their location, and the potentially affected population. Because an option may be inherently safer with regard to some hazards and inherently less safe with regard to others, the decision process must consider the entire life cycle, the full spectrum of hazards and risks, and the potential for transfer of risk from one impacted population to another. This report also noted that there is currently no consensus on either a quantification method for IST or a scientific assessment method for evaluation of IST options. The report states that risk can be reduced by many methods, including ISD, but those methods must include the full spectrum of risk reduction approaches (passive, active, and procedural risk management systems). Few technologies will be inherently safer with respect to all hazards, and other approaches will usually be required to manage the full range of hazards and risks. As an example, the report points out that an IST with respect to a catastrophic release hazard may conflict with methods to minimize other hazards, such as theft or diversion of materials, contamination of product, or degradation of infrastructure. It may not address other hazards at all, or it may create new hazards.

3. EPA's Past Approach to STAA

The RMP rule already embodies most aspects of the hierarchy of controls. For example, § 68.67 (PHA) requires owners and operators of Program 3 processes to address process hazards using engineering and administrative controls. In most cases, the rule's requirements for compliance with RAGAGEP should ensure that equipment and processes are properly designed, using appropriate passive, active, and procedural controls. The RMP rule also encourages passive and active mitigation for releases by allowing a source to account for such mitigation techniques in its OCA (see §§ 68.25 and 68.28). However, the rule does not contain any explicit requirement for owners and operators to address the first tier of the hierarchy of controls—*i.e.* inherent safety.

Although the current rule does not include IST requirements, EPA has recognized the importance of considering IST for improving process safety. The preamble of the 1995 supplemental NPRM for the Risk

Management Program recognized “that there are many opportunities to make processes inherently safer without large scale adoption of new technologies (60 FR 13533, March 13, 1995). EPA also noted in the preamble to the 1996 final RMP rule, “Application of good PHA techniques often reveals opportunities for continuous improvement of existing processes and operations without a separate analysis of alternatives” (61 FR 31674, June 20, 1996). The structure of the applicability provisions of the RMP rule, with TQs, encourages minimizing the presence of regulated substances in processes and encourages sources to continue to examine and adopt viable alternative processing technologies, system safeguards, or process modifications to make new and existing processes and operations inherently safer. EPA's existing guidance on the “general duty clause” in CAA section 112(r)(1) states that, “The owners and operators should try to substitute less hazardous substances for extremely hazardous substances or minimize inventories when possible. This is usually the most effective way to prevent accidents and should be the priority of a prevention program.”¹⁰⁶

In the 1996 final RMP rule, EPA decided not to mandate IST analysis, stating that “EPA does not believe that a requirement that owners or operators conduct searches or analyses of alternative process technologies for new or existing processes will produce significant additional benefits.” (61 FR 31688, June 20, 1996). However, since 1996 EPA has seen that advances in ISTs and safer alternatives are becoming more widely available and are being adopted by some companies. Voluntary implementation of some ISTs has been identified through surveys and studies and potential opportunities have been identified through EPA inspections and CSB incident investigations. EPA now believes that there is a benefit in requiring that some facilities evaluate whether they can improve risk management of current hazards through potential implementation of ISTs or risk management measures that are more robust and reliable than ones currently in use at the facility. While EPA believes that facilities should look for additional opportunities to increase safety, we believe that the facility owners or operators are in the best position to identify which changes are

¹⁰⁶ EPA, Office of Solid Waste and Emergency Response and Office of Enforcement and Compliance Assurance. May 2000. *Guidance for Implementation of the General Duty Clause, CAA Section 112(r)(1)*. EPA 550-B00-002. <http://www2.epa.gov/rmp/guidance-implementation-general-duty-clause-clean-air-act-section-112r>.

feasible to implement for their particular process. As a result, EPA is not proposing to require that a facility implement a particular technology or design.

In addition, in CAA section 112(r) enforcement cases, facility owners or operators have occasionally entered into consent agreements involving implementation of safer alternatives. For example, a food processor in San Francisco had a release of anhydrous ammonia from its refrigeration system in 2009, resulting in evacuation of the facility and several neighboring businesses and hospitalization of 17 people. As part of a consent decree, the facility owner or operator converted the anhydrous ammonia refrigeration system to a safer technology that uses glycol and less ammonia, along with implementing other safety measures and system upgrades.¹⁰⁷ Following community complaints and a 2011 EPA inspection, the owner or operator of a fertilizer facility chose to remove a total of 99,000 pounds of anhydrous ammonia from the facility, thus reducing the risk to the surrounding population.¹⁰⁸ In another case, the owner or operator of a dairy company agreed to reduce the anhydrous ammonia inventory and improve release detection equipment at two facilities after two anhydrous ammonia releases in 2005 and 2007 (the latter causing nine people to spend a night in the hospital) and after EPA identified CAA violations.¹⁰⁹ The owner or operator of a Connecticut metal finishing facility that used chlorine gas for treatment of cyanide waste agreed to implement a project to eliminate the use of chlorine by substituting liquid sodium hypochlorite after EPA found violations of accident prevention regulations.¹¹⁰ A release from one of the chlorine cylinders at the facility could

¹⁰⁷ EPA News Release, January 31, 2012. South San Francisco Food Processing Factory Will Pay Nearly \$700,000 in Penalties, Spend \$6 Million to Update Refrigeration System Safety. <http://yosemite.epa.gov/opa/admpress.nsf/0/1c6b8ee238fd17d185257996005b892f>.

¹⁰⁸ EPA News Release, August 14, 2013. Abilene Products Co., Inc., Agrees to \$90,660 Settlement for Violations of CAA at Abilene, Kan., Fertilizer Facility. <http://yosemite.epa.gov/opa/admpress.nsf/0/8BB676093B7826FF85257BC7006B3E4C>.

¹⁰⁹ EPA News Release, October 1, 2012. Settlement with Suiza Dairy Corporation for Violations at Facilities in Puerto Rico will make facilities safer, benefit nearby communities. <http://yosemite.epa.gov/opa/admpress.nsf/0/319D803456BF7B0885257A8A005A4238>.

¹¹⁰ EPA Region 1, January 20, 2014. Consent Agreement and Final Order—In the Matter of: Metal Finishing Technologies, LLC Docket Number: CAA-01-2013-0073. [http://yosemite.epa.gov/OA/RHC/EPAAdmin.nsf/Filings/3A95FA64BDE7026C85257C8600214551/\\$File/CAFO%20CAA-01-2013-0073.pdf](http://yosemite.epa.gov/OA/RHC/EPAAdmin.nsf/Filings/3A95FA64BDE7026C85257C8600214551/$File/CAFO%20CAA-01-2013-0073.pdf).

potentially have impacted offsite public receptors in a densely populated area.¹¹¹ Thus, EPA's historic approach to STAA under CAA section 112(r) has resulted in chemical plant operators introducing safer technology and alternatives through implementation of existing rule provisions that address most of the hierarchy of controls, but the Agency has not mandated the use or analysis of IST alternatives.

4. Public Input on STAA

Public feedback and input to the Working Group established to oversee Executive Order 13650, showed there was broad agreement among facility owners and operators, plant workers, community members, and environmental and union organizations of the benefits of implementing safer alternatives where feasible. There was, however, no consensus about the role of government in the implementation of *safer technologies and alternatives*. Industry representatives are wary about process design and operational decisions, including choices of IST, being imposed through regulations. Process design and operational decisions are technically complex and often difficult to regulate. Conversely, many labor and environmental justice representatives believe the Federal government should have a larger role in encouraging IST, with particular emphasis on the opportunity to reduce the vulnerability of residents and workers from incidents.¹¹²

a. Pending Petition on IST

In July of 2012, a coalition representing 54 organizations and individuals petitioned EPA to use its rulemaking authority under CAA section 112(r)(7)(A), "to require the use of IST, where feasible, by facilities that use or store hazardous chemicals." The petitioners also requested that pending completion of such rulemaking, that EPA should:

revise its guidance concerning the enforcement of the CAA general duty clause, section 112(r)(1), 42 U.S.C. 7412(r)(1), to

¹¹¹ EPA Region 1, September 30, 2013. Administrative Complaint—In the Matter of: Metal Finishing Technologies, LLC Docket Number: CAA-01-2013-0073. [http://yosemite.epa.gov/OA/RHC/EPAAdmin.nsf/Filings/1BE4A3485C3E1E6B85257C1C0021490D/\\$File/CAA-01-2013-0073%20Complaint.pdf](http://yosemite.epa.gov/OA/RHC/EPAAdmin.nsf/Filings/1BE4A3485C3E1E6B85257C1C0021490D/$File/CAA-01-2013-0073%20Complaint.pdf).

¹¹² Chemical Facility Safety and Security Working Group, May 2014. Executive Order 13650 Report to the President—Actions to Improve Chemical Facility Safety and Security—A Shared Commitment. EPA, the Department of Labor (DOL), DHS, the Department of Justice (DOJ), the Department of Agriculture (DOA), and the Department of Transportation. Washington, DC. https://www.osha.gov/chemicalexecutiveorder/final_chemical_eo_status_report.pdf.

make clear that the duty to prevent releases of extremely hazardous substances includes the use, where feasible, of safer technologies to minimize the presence and possible release of hazardous chemicals.¹¹³

The petitioners stated that many Americans remain at risk of injury or death from the unforeseen release of harmful chemicals from nearby industrial parks, water treatment plants, etc., and that the DHS CFATS, which impose security measures on facilities presenting a high risk of vulnerability to releases of hazardous substances, do not cover water treatment facilities, many of which use and store significant quantities of chlorine gas.

The petitioners cited specific threats or accidents as examples of risks that, in their view, should have been addressed by taking steps to eliminate or minimize extremely hazardous substances¹¹⁴ where feasible. Examples they cited include a 2009 explosion at a refinery in Corpus Christi, Texas, that resulted in the release of more than a ton of hydrogen fluoride, with a much larger release being narrowly avoided.¹¹⁵ A 2008 explosion and fire at a Bayer CropScience facility in West Virginia narrowly missed causing a breach in piping on the top of an aboveground tank of methyl isocyanate (MIC), which the petitioners claimed, if breached, would have resulted in a deadly release of the same chemical responsible for the Bhopal, India disaster.¹¹⁶ They also

¹¹³ Greenpeace et al. July 25, 2012. Petition to Prevent Chemical Disasters from Rick Hind of Greenpeace, Richard Moore of Los Jardines Institute and Scott Nelson of Public Citizen sent to EPA Administrator Lisa Jackson, EPA, Washington, DC, www.documentcloud.org/documents/404584-petition-to-epa-to-prevent-chem-disasters-filed.html.

¹¹⁴ This note intended to specifically reference the extremely hazardous substances listed under § 302 of EPCRA. Section 112(r)(1) of the CAA provides a purpose and general duty to prevent the accidental release and to minimize the consequence of any release of any regulated substances promulgated by EPA under § 112(r)(3) (40 CFR part 130) and for "any other extremely hazardous substance." Although the term "any other extremely hazardous substance" is not defined, the legislative history of the 1990 CAAA indicate that the term would include any agent "which may or may not be listed or otherwise identified by any Government agency which may as the result of short-term exposures associated with releases to the air cause death, injury or property damage due to its toxicity, reactivity, flammability, volatility, or corrosivity." See: <http://www2.epa.gov/sites/production/files/2013-10/documents/gdcregionalguidance.pdf>.

¹¹⁵ Petitioners are referring to an accident at the CITGO Refinery in Corpus Christi, Texas. For more information on this accident, see CSB, December 9, 2009. CITGO Refinery HF Release and Fire, Corpus Christi, Texas. Final Report, Urgent Recommendation. <http://www.csb.gov/citgo-refinery-hydrofluoric-acid-release-and-fire/>.

¹¹⁶ CSB, January 2011. Investigation Report: Pesticide Chemical Runaway Reaction Pressure Vessel Explosion, Bayer CropScience, LP, Institute, West Virginia, August 28, 2008. Report No. 2008–

identified a 2007 propane explosion and fire at a refinery in Texas that resulted in the release of nearly three tons of chlorine gas, with deaths and injuries avoided only by prompt evacuation of workers. The CSB, which reported the chlorine release as 5,332 pounds, recommended the refinery replace chlorine used as a biocide in cooling water treatment with inherently safer materials, such as sodium hypochlorite, at all its refineries.¹¹⁷ The petitioners also cited several examples where readily available IST approaches have already been used, such as substitution of liquid bleach or ultraviolet light for chlorine in water disinfection^{118 119} and the use of alternatives to replace HF in gasoline refining.¹²⁰

b. National Academy of Sciences (NAS) and CSB Investigation Findings

A 2012 report from the NAS that examined the 2008 Bayer CropScience accident in West Virginia and community concerns surrounding MIC (and other highly toxic materials), found that inherently safer process assessments can be valuable components of PSM that can help facility personnel consider the full range of options in process design.¹²¹ The NAS report found that while Bayer and previous owners of the site incorporated some considerations of IST, these companies “did not perform systematic and complete inherently safer process assessments on the processes for manufacturing MIC or the carbamate pesticides at the Institute site.” Thus, large amounts of MIC, phosgene, and other toxic materials were produced or stored at the site for decades.

The NAS also found that industry as a whole lacks a common understanding

of what is needed to identify inherently safer processes and accurately quantify their benefits, including the potential for reduced emergency preparedness costs. The NAS panel noted that the goal of ISD is not only to prevent an accident, but also to reduce the consequences of an accident should one occur, thus allowing emergency preparedness planners to focus on more readily manageable scenarios.

NAS found that inherently safer process assessments will not always result in a clear, well-defined, and feasible path forward. Although one process alternative may be inherently safer with respect to one hazard— toxicity of byproducts, for example—the process may present other hazards, such as an increased risk of fire or more severe environmental impacts. Choosing between options for process design involves considering a series of tradeoffs and developing appropriate combinations of inherent, passive, active, and procedural safety systems to manage all hazards.

A 2011 analysis of 63 CSB accident investigation reports, studies and bulletins by Canadian university researchers identified over 200 examples of recommendations for risk reduction measures from the hierarchy of controls that apply to the prevention of accidents or consequence mitigation. Thirty-six percent of the examples involved inherent safety, 8% involved passive engineered safety, 14% involved active engineered safety and 42% involved procedural safety. ISD items were observed to be equally split among the four primary ISD principles of minimization, substitution, moderation and simplification.¹²²

The CSB has released reports for two recent accidents that the Board indicated could have been avoided if safer technologies had been employed. CSB found that the use of a safer material, such as high-chromium steel, would have prevented the accelerated corrosion and failure of carbon steel involved in the equipment rupture at the Tesoro Refinery in Anacortes, Washington, in 2010, which resulted in an explosion and fire that killed seven employees.¹²³ One recommendation from this CSB accident investigation

was that EPA should revise the RMP rule to require the documented use of inherently safer systems analysis and the hierarchy of controls to the greatest extent feasible when facilities are establishing safeguards for identified process hazards. CSB also cited the failure to use more corrosion resistant high-chromium steel as a factor in the 2012 Chevron Refinery accident in Richmond, California, which released hydrocarbons that ignited, endangering 19 employees.¹²⁴

c. State and Local IST Programs

Some state and local governments have included inherent safety requirements in their regulations. An IST Review Rule was adopted under the New Jersey TCPA program in May 2008.¹²⁵ It requires IST reviews of all facilities covered by the TCPA by evaluating, at a minimum, the four IST principles: minimization, substitution, moderation, and simplification. NJDEP defined “IST” to mean “the principles or techniques that can be incorporated in a covered process to minimize or eliminate the potential for an Extraordinarily Hazardous Substance release.”¹²⁶

The rule includes a checklist developed under the direction of the New Jersey Domestic Security Preparedness Task Force. The NJDEP allows any available IST analysis method to be used to perform the IST review, but discusses two methods which are commonly used: (1) Integrating IST into the facility’s PHA study and (2) reviewing and completing a checklist containing a number of practical inherent safety considerations.¹²⁷ The NJDEP also requires an IST review report that includes:

- Information on the review team (name, position, qualifications, etc.);
- IST analysis method used;
- IST already present in the process;
- Additional IST identified;
- IST to be implemented, and a schedule for their implementation; and

08–I–WV, pp. 88–89, http://www.csb.gov/assets/1/19/Bayer_Report_Final.pdf.

¹¹⁷ CSB. July 9, 2008. Investigation Report: LPG Fire at Valero-McKee Refinery, Sunray, Texas, February 16, 2007. Report No. 2007–05–I–TX. <http://www.csb.gov/assets/1/19/CSBFinalReportValeroSunray.pdf>.

¹¹⁸ Orum, Paul and Rushing, Reece. March 2, 2010. Leading Water Utilities Secure Their Chemicals. Center for American Progress, Washington, DC. <https://www.americanprogress.org/issues/security/news/2010/03/02/7538/leading-water-utilities-secure-their-chemicals/>.

¹¹⁹ M. McCoy. November 9, 2009. Clorox to Stop Using Chlorine. Chemical & Engineering News. <http://cen.acs.org/articles/87/45/Clorox-Stop-Using-Chlorine.html>.

¹²⁰ Morris, J. and Hamby, C. May 19, 2014. Use of toxic acid puts millions at risk. Center for Public Integrity. Washington, DC. <http://www.publicintegrity.org/2011/02/24/2118/use-toxic-acid-puts-millions-risk>.

¹²¹ NAS. 2012. Summary—The Use and Storage of MIC at Bayer CropScience. pp. 3, 7. <http://dels.nas.edu/resources/static-assets/materials-based-on-reports/reports-in-brief/MIC-Summary-Final.pdf>.

¹²² Paul R. Amyotte, Dustin K. MacDonald, Faisal I. Khan. September 2011. An analysis of CSB investigation reports concerning the hierarchy of controls. Process Safety Progress. Volume 30, Issue 3, pp. 261–265. <http://onlinelibrary.wiley.com/doi/10.1002/prs.10461/abstract>.

¹²³ CSB. May 2014. Investigation Report: Catastrophic Rupture of Heat Exchanger, Tesoro Anacortes Refinery, Anacortes, Washington, April 2, 2010. Report 2010–08–I–WA. http://www.csb.gov/assets/1/7/Tesoro_Anacortes_2014-May-01.pdf.

¹²⁴ CSB. January 2014. Regulatory Report: Chevron Richmond Refinery Pipe Rupture and Fire, Chevron Richmond Refinery #4 Crude Unit, Richmond, California, August 6, 2012. Report No. 2012–03–I–CA. http://www.csb.gov/assets/1/19/CSB_Chevron_Richmond_Refinery_Regulatory_Report.pdf.

¹²⁵ NJDEP. March 29, 2012. NJDEP Title 7, Chapter 31 TCPA Program Consolidated Rule Document. Pages 17, 66–68. http://www.state.nj.us/dep/rpp/brp/tcpa/downloads/conrulerev9_fonts.pdf.

¹²⁶ NJDEP uses the term “Extraordinarily Hazardous Substance” to describe the substances that are subject to the NJ TCPA.

¹²⁷ NJDEP, Bureau of Release Prevention. January 15, 2015. Guidance for TCPA, IST Review, Rev. 1. http://www.nj.gov/dep/rpp/brp/tcpa/downloads/IST_guidance.pdf.

- A list of IST determined to be infeasible.

A facility owner or operator must determine an identified alternative's feasibility, and must provide written justification based on both qualitative and quantitative evaluations of environmental, human health and safety, legal, technological, and economic factors if it decides not to implement it. The ACC noted that NJDEP's definition of inherent safety allowed "add-on" safety equipment and included routine safety improvements that are not part of the inherent safety concept as defined by CCPS and others.¹²⁸ NJDEP visited every regulated facility and reviewed the IST report with the facility staff. A January 2010 report prepared by the NJDEP to summarize the Department's review of 85 IST reports indicated that approximately 48% of facilities reported that they had implemented or scheduled to implement IST measures as a result of conducting the IST review.¹²⁹

California's Contra Costa County's ISO¹³⁰ and the City of Richmond, California's ISO¹³¹ require owners and operators of stationary sources to consider ISS in the development and analysis of mitigation systems resulting from a PHA for each covered process, and in the design and review of new processes and facilities. Contra Costa County's CC ISO defined ISS as

"ISD strategies" as discussed in the latest edition of the CCPS publication, "Inherently Safer Chemical Processes,"¹³² and to mean feasible alternative equipment, processes, materials, lay-outs, and procedures meant to eliminate, minimize, or reduce the risk of a major chemical accident or release by modifying a process rather than adding external layers of protection. Examples include, but are not limited to, substitution of materials with lower vapor pressure, lower

¹²⁸ ACC. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0694 on Risk Management Program RFI, pp. 25.

¹²⁹ NJDEP. January 15, 2010. IST Implementation Summary. http://www.nj.gov/dep/rpp/brp/tcpa/downloads/IST_SUMWEB.pdf.

¹³⁰ Contra Costa County CA. 2006. ISO Code, Title 4—Health and Safety, Division 450—Hazardous Materials and Wastes, Chapter 450-8—Risk Management. Contra Costa County, California pp. 5, 21–22. <http://cchealth.org/hazmat/pdf/iso/Chapter-450-8-RISK-MANAGEMENT.pdf>.

¹³¹ The Richmond ISO is identical to the Contra Costa County ISO except it does not include the 2006 amendments made to the Contra Costa ISO which require a safety culture assessment, a human factors program, management of change for maintenance, health and safety positions, and a security vulnerability analysis. CCHS. July 26, 2011. ISO. City of Richmond Annual Performance Review and Evaluation Report. CCHS, Contra Costa County, CA. http://cchealth.org/hazmat/pdf/iso/iso_report_richmond.pdf.

¹³² CCPS. 2009. *Inherently Safer Chemical Processes: A Life Cycle Approach*, 2nd ed., American Institute of Chemical Engineers, CCPS New York, Wiley.

flammability, or lower toxicity; isolation of hazardous processes; and use of processes which operate at lower temperatures and/or pressures.

The Contra Costa County ISO requires that the stationary source must select and implement ISS to the greatest extent feasible and as soon as administratively practicable. If a stationary source concludes that implementation of an ISS is not feasible, the stationary source must document the basis for this conclusion in meaningful detail. Contra Costa County requires the documentation to include sufficient evidence to demonstrate to CCHS's satisfaction that implementing the ISS is not feasible and the reasons for this conclusion. A claim that implementation of an ISS is not feasible cannot be based solely on evidence of reduced profits or increased costs. A February 2013 report prepared by CCHS on their ISO program indicated that 4 of 7 facilities covered under the ordinance's ISS provision implemented at least one inherently safer measure within the previous year.¹³³ The February 2014 CCHS ISO report¹³⁴ indicated that 3 of the 7 facilities reported three or more ISS implemented during the last reporting year. In the city of Richmond, California, as of July 2011, the two facilities covered by the Richmond ISO had implemented 62 safer alternative measures involving ISSs.¹³⁵ In June 2014, the Contra Costa County ISO requirements were expanded to require evaluation and documentation of ISS analysis for new projects and processes and for existing processes, whenever major changes resulting from incident investigation recommendations, root cause analysis, or MOC review indicate that change could reasonably result in a major chemical accident or release.

d. Industry and Trade Association Input

Numerous trade associations (ACC,¹³⁶ SOCMA,¹³⁷ Independent Petroleum Association of America [IPAA] and American Exploration & Production

¹³³ CCHS. February 26, 2013. Annual Performance Review and Evaluation-ISO.

¹³⁴ CCHS. December 9, 2014. Annual Performance Review and Evaluation-ISO. <http://cchealth.org/hazmat/pdf/iso/iso-report.pdf>.

¹³⁵ CCHS. July 26, 2011. ISO. City of Richmond Annual Performance Review and Evaluation Report. http://cchealth.org/hazmat/pdf/iso/iso_report_richmond.pdf.

¹³⁶ ACC. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0694 on Risk Management Program RFI, PDF pp. 16–28 of 189.

¹³⁷ SOCMA. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0560 on Risk Management Program RFI, pp. 3–6.

Council [AXPC],¹³⁸ API,¹³⁹ Association of Metropolitan Water Agencies [AMWA],¹⁴⁰ National Association of Chemical Distributors [NACD],¹⁴¹ National Association of Manufacturers [NAM],¹⁴² CGA,¹⁴³ Chlorine Institute [CI],¹⁴⁴ AFPM,¹⁴⁵ Chemical Safety Advocacy Group [CSAG]¹⁴⁶, one company, Axiall Corporation,¹⁴⁷ and the Mary Kay O'Connor Process Safety Center [MKOPSC],¹⁴⁸ noted in their comments on EPA's RFI, that IST is only one of many approaches that may be employed to achieve risk reduction. They also noted that identification and evaluation of a safer alternative is not an off-the-shelf concept, but requires a holistic and often complex evaluation involving various factors. The commenters also indicated that IST decisions must be process-, site-, and hazard-specific, technically and economically feasible, and avoid shifting risk. These commenters stated that a regulatory program focused exclusively on eliminating a safety hazard would overlook other important considerations and risks that must be factored into an evaluation of a process change. They further contended that improper implementation of a seemingly safer alternative may lead to undesired consequences. The commenters argued that because an option may be inherently safer with regard to some hazards and inherently less safe with regard to others, decisions about the optimum strategy for

¹³⁸ IPAA and AXPC. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0584 on Risk Management Program RFI, pp. 21–24.

¹³⁹ API. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0624 on Risk Management Program RFI, pp. 24–26.

¹⁴⁰ AMWA. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0639 on Risk Management Program RFI, pp. 1–7.

¹⁴¹ NACD. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0614 on Risk Management Program RFI, pp. 6–7.

¹⁴² NAM. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0625 on Risk Management Program RFI, pp. 2.

¹⁴³ CGA. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0633 on Risk Management Program RFI, pp. 4.

¹⁴⁴ CI. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0642 on Risk Management Program RFI, pp. 7–8.

¹⁴⁵ AFPM. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0665 on Risk Management Program RFI, pp. 35–38.

¹⁴⁶ CSAG. October 29, 2013. Comment No. EPA-HQ-OEM-2014-0328-0691 on Risk Management Program RFI, pp. 38–21.

¹⁴⁷ Axiall Corp. October 29, 2013. Comment No. EPA-HQ-OEM-2014-0328-0549 on Risk Management Program RFI, pp. 5.

¹⁴⁸ MKOPSC. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0543 on Risk Management Program RFI, pp. 101–108.

managing risks from all hazards are required.

In their comments on the RFI, AMWA¹⁴⁰ also stated that decisions to select the most appropriate water treatment methods are best made by water utility managers based on a variety of factors. Most importantly, they stated, these managers should also determine which chemical will most effectively make water safe for public consumption and achieve compliance with the requirements of the Safe Drinking Water Act.¹⁴⁹ According to AMWA, allowing Federal officials to “second-guess” these local decisions—with a focus on minimizing potential terror attack consequences offsite, rather than ensuring the appropriate treatment and safety of drinking water—could lead to inadequately treated water and even detriments to public health. AMWA also stated that if utilities were simply instructed to consider whether an alternative might be appropriate for them, the costs could be relatively small. But, in AMWA’s view, if this analysis were required to include numerous prescribed steps, calculations and justifications for subsequent decisions, then costs could quickly escalate beyond what is reasonable and affordable.

MunicipalH2O, a Risk Management Program/PSM compliance consultant for the water/wastewater treatment industry, commented that implementing these changes is very expensive and cost prohibitive. The commenter suggested that if a new requirement is placed on regulated water and wastewater facilities to perform an analysis of safer technology and alternatives, those facilities that have previously completed an analysis of safer technology and alternatives for their operation should be allowed to utilize their already completed analysis and be exempt from any future requirement in this area.¹⁵⁰

The American Water Works Association (AWWA) stated that it has found that options often classified as inherently safer may in fact have impacts that counter other Federal initiatives associated with the nation’s transportation systems, energy consumption, and carbon dioxide emissions.¹⁵¹ Because of these risk tradeoffs, critical factors and variables,

AWWA maintained that the choice of disinfectant should lie with qualified local officials, who are best acquainted with the specifics of their local situation.

NACD stated that requiring manufacturers to hold smaller quantities of hazardous materials on site would exhaust their limited inventories faster.¹⁴¹ The commenter also indicated that distributors would need to deliver hazardous chemicals to these facilities more frequently, thereby significantly increasing the number of miles driven to deliver the same amount of product and ultimately increasing and shifting risk to the public roadways. In addition, NACD suggested there is a higher risk of incident during product loading and unloading, and that more shipments would increase the number of times chemicals must be loaded and unloaded, thereby increasing risk. NACD also stated that fixed-site risks are more manageable than those with a transportation component.

5. Proposed Revisions to Regulatory Text

Based on the considerations discussed above, EPA is proposing to modify the PHA provisions in § 68.67 to require analysis of potential safer technology and alternatives that would include, in the following order of preference: IST or ISD, passive measures, active measures, and procedural measures. EPA is limiting the proposed provisions to Program 3 processes in the petroleum and coal products manufacturing (NAICS 324), chemical manufacturing (NAICS 325), and paper manufacturing (NAICS 322) sectors for reasons discussed in section IV.C.6. STAA Applicability.

EPA is also proposing to require owners or operators to evaluate the feasibility of implementing any IST or ISD considered. EPA believes a feasibility analysis of any considered IST or ISD is necessary to ensure the facility owner or operator seriously considers whether IST or ISD modifications could further reduce risks and prevent accidents at the facility.

EPA is proposing to use the term “feasibility” to describe this analysis because it is already widely used in the context of IST. However, this term has a distinct meaning under the Occupational Safety and Health Act, where the courts look to whether a safety measure is capable of being done.¹⁵² In the enforcement context, feasibility means that technical know-

how about materials and methods is available or adaptable to specific circumstances, which when applied creates a reasonable possibility that employee exposure to occupational hazards will be reduced, and that the firm is financially able to implement the measure without severe adverse economic effect.¹⁵³ Because of the potential for confusion, OSHA has indicated that it would be unable to adopt the term feasible, as defined in this notice, under its PSM standard if OSHA considers similar revisions involving IST. EPA seeks comment on whether it would be better if EPA used another term, such as “practicability” for this analysis.

EPA is not proposing to require sources affected by this provision to implement an evaluated IST or ISD. The decision to implement such measures must consider the numerous factors related to processes, facilities, and society at large. Improper implementation of a seemingly safer alternative may lead to undesired consequences. While EPA believes that sources should look for additional opportunities to increase safety, we believe that the facility owners or operators are in the best position to identify which changes are feasible to implement for their particular process. This decision should be based on a careful analysis and take into account: The chemicals present and their associated hazards; the operations and process conditions involved; consequences to workers, nearby populations and the environment; and the types of equipment used that are specific to the facility’s process. The analysis may consider the potential to shift risk between populations, locations, environmental media (air, water land), etc.

a. Definitions (§ 68.3)

EPA is proposing to add several definitions that relate to a STAA in § 68.3. EPA is adding these definitions to describe risk reduction strategies that the owner or operator may use when considering safer technology and alternatives.

First, EPA is proposing a definition for inherently safer technology or design (see § 68.3 for the proposed definition). The proposed definition includes risk management measures that would replace or reduce the use of regulated substances or make operating conditions less hazardous or less complex. Adopting the use of IST or ISD

¹⁴⁹ AMWA, October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0639 on Risk Management Program RFI, pgs. 4–5.

¹⁵⁰ MunicipalH2O, October 28, 2103. Comment No. EPA-HQ-OEM-2014-0328-0588 on Risk Management Program RFI, pgs. 6–7.

¹⁵¹ AWWA, October 29, 2013. Comment No. EPA-HQ-OEM-2014-0328-0648 on Risk Management Program RFI, pgs. 3–5.

¹⁵² See *American Textile Mfrs. Inst. v. Donovan*, 452 U.S. 490, 509 (1981); *Seaworld of Florida, LLC v. Perez*, 748 F.3d 1202, 1215 (D.C. Cir. 2013).

¹⁵³ OSHA CPL 02-00-159, Field Operations Manual 3-22 (2015); *Avcon, Inc.*, 23 O.S.H. Cas. (BNA) 1440, 1454 n.24 (O.S.H.R.C. Apr. 5, 2011).

eliminates or reduces hazards by using different materials and/or process conditions which would make accidental releases less likely, or the impacts of such releases less severe.

Second, EPA is proposing a definition for “passive measures” (see § 68.3) that relies on measures that reduce a hazard without human, mechanical, or other energy input. Examples of passive measures include pressure vessel designs, dikes, berms, and blast walls.

The third risk reduction measure that EPA is proposing to define is “active measures.” These 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 (such as hydrocarbon sensors).

Lastly, “procedural measures” would include policies, operating procedures, training, administrative controls, and emergency response actions to prevent or minimize incidents (see § 68.3). Examples of procedural measures may include administrative limits on process vessel fill levels, procedural steps taken to avoid releases, etc.

In order to evaluate the ISTs and ISDs considered, EPA is proposing to define “feasible” to include consideration of economic, environmental, legal, social, and technological factors when determining if the IST or ISD can be accomplished in a successful manner within a reasonable period of time (see § 68.3). Environmental factors could include consideration of risks transferred elsewhere if a new risk reduction measure is adopted. EPA requests comment on these proposed definitions. Furthermore, EPA requests comment on whether the term “feasible” is appropriate to characterize the viability of IST alternatives being considered. Is there another term, such as “practicable,” that may be more appropriate?

b. Process Hazard Analysis (PHA) (§ 68.67)

EPA is proposing to modify the PHA provisions by adding paragraph (c)(8) to § 68.67, to require that the owner or operator of a facility with Program 3 processes in NAICS codes 322, 324, and 325 address safer technology and alternative risk management measures applicable to eliminating or reducing risk from process hazards. EPA is proposing to add paragraph (c)(8)(i) to specify that the analysis include, in the following order of preference: IST or design, passive measures, active measures, and procedural measures. The owner or operator may evaluate a

combination of risk management measures to reduce risk.

EPA is also proposing to add paragraph (c)(8)(ii) to require that the owner or operator determine the feasibility of the IST or ISD considered. The results of the feasibility analysis must be documented as part of the current PHA requirements in § 68.67(e), which requires the owner or operator to document actions to be taken and resolution of recommendations. EPA seeks comment on whether the proposed requirements to document feasibility are adequate or if these requirements should be modified to require a more extensive documentation of feasibility. For example, EPA could require that the source document the basis for this conclusion in meaningful detail (similar to California’s Contra Costa County’s ISO¹⁵⁴ requirements).

The PHA must be updated and revalidated every five years in accordance with paragraph § 68.67(f) and as such, this provides the owner or operator opportunities to evaluate the feasibility of IST or ISD considered since the last PHA review. EPA believes that five-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 feasible. EPA seeks comment on these proposed revisions. Additionally, EPA requests comment on whether to require STAA documentation be submitted to EPA and/or the implementing agency.

6. STAA Applicability

EPA is proposing to limit the applicability of the STAA provisions to sources in the petroleum and coal products manufacturing (NAICS 324), chemical manufacturing (NAICS 325), and paper manufacturing (NAICS 322) sectors for two reasons. First, 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 technology, particularly in the area of 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. Therefore, such sources

can often consider the full range of inherent safety options, including minimization, substitution, moderation, and simplification, as well as passive, active, and procedural measures. This contrasts with regulated sources that simply sell or distribute a particular regulated substance, such as bulk anhydrous ammonia. Although such sources may also have opportunities to identify and implement IST, the existence of such sources is predicated on handling and distributing a specific regulated substance. Therefore, their opportunities to implement certain IST strategies such as substitution or minimization may be limited. Similarly, sources involving relatively simpler chemical processes may have opportunities to implement chemical substitution strategies but may be limited in their ability to apply moderation and simplification strategies.

Second, EPA notes that RMP facilities in the three selected sectors have been responsible for a relatively large number of accidents, deaths, injuries, and property damage.¹⁵⁵ EPA compared the number of RMP accidents that occurred between January 1, 2004, and December 31, 2013, reported by twelve industry sectors to the number of facilities in each sector. Each sector was comprised of industries based on similar operations involving the RMP substances and complexity. The twelve sectors were: Petroleum and coal products manufacturing (NAICS 325), paper manufacturing (NAICS 322), chemical manufacturing (NAICS 324), food and beverage manufacturing (NAICS 311, 312), other manufacturing (all other NAICS 31–33), agricultural chemical distributors (NAICS 11, 42491), chemical/petroleum wholesalers (NAICS 4246, 4247), other wholesalers (all other NAICS 423, 424), warehouses (NAICS 493), water supply/wastewater treatment (NAICS 22131, 22132, 924), oil/gas extraction (NAICS 211) and all other (NAICS 211 (except 22131 and 22132), 44, 45, 48, 54, 56, 61, 72). The sector accident rates (number of accidents divided by the number of facilities in each sector) ranged from 1.08 to 0.04. Three sectors have significantly higher accident rates as compared to other sectors: 1.08 (petroleum and coal products manufacturing), 0.66 (paper manufacturing) and 0.36 (chemical manufacturing). The petroleum and coal products manufacturing accident rate

¹⁵⁴ Contra Costa County CA. 2006. ISO Code, Title 4—Health and Safety, Division 450—Hazardous Materials and Wastes, Chapter 450–8—Risk Management. Contra Costa County, California pp. 5, 21–22. <http://cchealth.org/hazmat/pdf/iso/Chapter-450-8-RISK-MANAGEMENT.pdf>.

¹⁵⁵ EPA. January 27, 2016. Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs under the Clean Air Act, Section 112(r)(7).

was 6–27 times higher, the paper manufacturing accident rate was about 4–6 times higher, and the chemical manufacturing accident rate was 2–9 times higher than other sectors. Therefore, implementation of safer technology and alternatives by these facilities in the pulp/paper manufacturing, chemical manufacturing, and petroleum refining sectors may prevent serious accidental releases in the future.

EPA seeks comment on whether the proposal to limit the STAA provisions to Program 3 regulated processes in NAICS 322, 324, and 325 is appropriate. EPA also seeks comment on whether the Agency should further limit applicability of the STAA provisions (e.g., to apply only during the design stage of new processes or facilities, or only to certain processes). As part of the SBAR Panel process, SERs cited limitations with flexibility to evaluate alternatives for custom formula blends and compliance with FDA approval requirements and, therefore, requested that EPA consider eliminating this provision and/or exempting batch toll manufacturers from this requirement. EPA seeks comment on these alternatives.

Finally EPA seeks comment on whether there are other sectors that should be subject to the proposed STAA provision. For example, should EPA require RMP regulated water supply/wastewater treatment facilities to analyze safer technology and alternatives and document feasibility of the alternatives?

7. Guidance on Evaluating Safer Technologies and Alternatives

Some owners or operators have already made process changes considered to be inherently safer, but others may not have sufficient information available to effectively assess whether their existing processes can incorporate inherently safer measures. To assist owners or operators with evaluating options for safer alternatives, EPA and OSHA developed a chemical safety alert in June 2015 illustrating the concepts, principles and examples of safer technology and alternatives to make industry more aware of this information, while providing sources of information for further investigation and review.¹⁵⁶

EPA and OSHA have said owners or operators may use any available methodology or guidance to conduct

their STAA, such as approaches discussed by CCPS (e.g., Hazard and Operability Study (HAZOP), What-If?, Checklist, Consequence-based methods),¹⁵⁷ the NJ TCPA IST guidance materials,¹⁵⁸ the Inherently Safer Systems Checklist provided by Contra Costa Hazardous Materials Program,¹⁵⁹ or the information on OSHA's Web page, "Transitioning to Safer Chemicals: A Toolkit for Employers and Workers."¹⁶⁰ CCPS provides guidelines for what should be provided in an inherent safety analysis and provides example rationales for why inherent safety review recommendations were rejected.¹⁶¹ Examples for why inherent safety review recommendations may not be feasible, include when the recommendation:

- Is in conflict with existing Federal, state and local laws.
- Is in conflict with RAGAGEP.
- Is economically impractical, such that the process unit would stop being fiscally feasible. This can include consideration of:
 - Capital investment;
 - Product quality;
 - Total direct manufacturing costs;
 - Operability of the plant; and/or
 - Demolition and future clean-up and disposal cost.
- Would have a negative social impact. Some examples could include an unacceptable visual or noise impact on the community, or increased traffic congestion.
- May violate a license agreement that cannot be modified, and so must remain in effect.
 - May decrease the hazard, but would increase the overall risk.
 - Provides less risk reduction than an alternative recommendation.

8. Alternative Options

As an alternative option, EPA seeks comment on whether to require facility owners or operators to implement any of the feasible options identified in the facility's analysis. This option would

rely on the owner or operator to select the specific technology or design to implement. EPA seeks comment on the factors EPA should consider when determining whether to require implementation of feasible options.

EPA evaluated the NJDEP¹²⁵ and CCHS¹³⁴ IST analysis programs as possible models to use in the Risk Management Program requirements. EPA seeks comment on whether we should include the following in our proposed STAA provisions:

- Aspects of the NJDEP's program, such as more prescribed documentation of STAA; or
- Other aspects of CCHS's program, such as requiring ISS analysis during the design of new processes, for PHA recommendations, or for major changes from an incident investigation recommendations, root cause analysis or MOC review that could reasonably result in a major chemical accident or release.

Finally, EPA seeks comment on whether either EPA or a third-party should create a "clearinghouse" of safer technology and alternatives that allow source owners or operators to share useful information and/or consult to identify technologies to evaluate for their process. We note that the concept of a clearinghouse has drawn support in comments on the RFI from state and local officials, labor and environmental stakeholders, academics, and industry representatives.¹⁶² One mechanism of collecting relevant information could be the National Working Group on Chemical Safety and Security's best practices Web site,¹⁶³ which collects and shares chemical safety and security best practices, including safer alternatives. Alternatively, EPA could require submission of STAA analyses,

¹⁵⁷ CCPS. 2009. Inherently Safer Chemical Processes: A Life Cycle Approach, 2nd ed., American Institute of Chemical Engineers, CCPS New York, Wiley.

¹⁵⁸ NJDEP, Bureau of Release Prevention. January 15, 2015. Guidance for TCPA, IST Review. http://www.nj.gov/dep/rpp/brp/tcpa/downloads/IST_guidance.pdf. See also NJWEC. May 5, 2008. New Rule for IST Review by NJDEP. http://www.njwec.org/PDF/Factsheets/CS_IST_FactSheet.pdf.

¹⁵⁹ Contra Costa Hazardous Materials Program. June 15, 2011. ISS Checklist (extracted from IST Checklist found in the CCPS Inherently Safer Chemical Processes, 2nd ed., with incorporation of additional considerations). http://cchealth.org/hazmat/pdf/iso/attachment_c.pdf.

¹⁶⁰ OSHA. Transitioning to Safer Chemicals, a Toolkit for Employers and Workers. https://www.osha.gov/dsg/safer_chemicals/index.html.

¹⁶¹ CCPS. 2009. Inherently Safer Chemical Processes: A Life Cycle Approach, 2nd ed. American Institute of Chemical Engineers, CCPS. New York, Wiley, 2009. Pgs. 200–202.

¹⁶² AMWA. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0639 on Risk Management Program RFI, p. 3; BlueGreen Alliance. October 27, 2014. Comment No. EPA-HQ-OEM-2014-0328-0579 on Risk Management Program RFI, p. 6. www.bluegreenalliance.org; BWD. October 24, 2014. Comment No. EPA-HQ-OEM-2014-0328-0654 on Risk Management Program RFI, p. 3; Beaver Water District (BWD), Lowell, Arkansas; CCHS. October 28, 2014. Comment No. EPA-HQ-OEM-2014-0328-0546 on Risk Management Program RFI, p. 8; CPCD. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0644 on Risk Management Program RFI, pgs. 16, 18–19; MKOPSC. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0543 on Risk Management Program RFI, p. 105; Tickner, J. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0688 on Risk Management Program RFI, p. 6. University of Massachusetts, Lowell, Massachusetts; TURI. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0539 on Risk Management Program RFI. Toxics Use Reduction Institute (TURI), University of Massachusetts, Lowell, Massachusetts, p. 5; United Steelworkers. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0547 on Risk Management Program RFI, p. 5.

¹⁶³ OSHA. 2014. Executive Order 13650 Best Practices. <https://www.osha.gov/chemicalexecutiveorder/LLIS/index.html>.

¹⁵⁶ EPA and OSHA. June 2015. Chemical Safety Alert: Safer Technology and Alternatives. EPA 550-F-15-503. <http://www.epa.gov/rmp/chemical-safety-alert-safer-technology-and-alternatives>.

or information from those analyses, directly to EPA, and develop its own Web site. The information shared on such a Web site may include practicable risk reduction measures that could be applied at various facilities to mitigate threats to the public, worker, health, environment, and facility during the production, transport, and use of chemicals.

D. Stationary Source Location and Emergency Shutdown

Serious accidents often highlight numerous safety concerns and emphasize the need to consider existing regulations, industry standards, recommended practices and guidance to reduce risks of future incidents. Two issues of particular importance include the location of stationary sources and their emergency shutdown capabilities.

1. Stationary Source Location

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 may allow such effects to dissipate prior to reaching receptors. The lack of sufficient distance between the source boundary and neighboring residential areas was a significant factor in the severity of several major chemical accidents, including, among others, the Bhopal disaster¹⁶⁴ and the recent West Fertilizer accident. In the Bhopal disaster, most of the deaths and injuries occurred in a residential area that had grown up next to the plant. In the West Fertilizer accident, an apartment complex and a nursing home located approximately 450 feet and 600 feet, respectively, from the source of the explosion were heavily damaged, resulting in three public fatalities (a total of 15 people were killed in the explosion). The explosion also caused over 260 injuries, as well as damage to over 350 homes and three schools located near the plant.¹⁶⁵

Facility designers have long recognized the potential benefits of

adding buffer or safety zones (*i.e.*, controlled areas separating the public and other facilities from the consequences of process incidents) when selecting the location for new chemical facilities. For existing facilities, owners have sometimes compensated nearby residents to relocate away from the facility boundary in order to create a buffer zone where one did not previously exist, or where adjacent residential areas had been developed after the facility itself was constructed.

The selection of locations of processes and process equipment within a stationary source can impact the surrounding community not only by the proximity of the accidental release to offsite receptors near the facility boundary (*e.g.*, people, infrastructure, environmental resources) but also by increasing the likelihood of subsequent releases from other nearby processes compromised by the initial release. The 1984 disaster at the PEMEX liquefied petroleum gas (LPG) tank farm in San Juan Ixhuatepec, Mexico, illustrates the potential for such effects. In this accident, an 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.¹⁶⁶

In the United States in 2007, a large fire at the Valero McKee refinery in Sunray, Texas, resulted in the release of chlorine gas and sulfuric acid from an adjacent process, which prevented responders from entering the area and extinguishing the fire for more than two days.¹⁶⁷

At West Fertilizer, the Risk Management Program-regulated anhydrous ammonia process was located near the AN storage area. Although the AN explosion did not cause any catastrophic failure of the ammonia storage vessels, the potential for a release existed. A 1994 explosion involving AN solution at Terra Industries in Port Neal, Iowa, which killed four workers, also damaged on-site ammonia tanks, creating an

ammonia cloud that resulted in the evacuation of 2,500 people.¹⁶⁸

The PSM standard and RMP rule both require that facility siting be addressed as one element of a PHA (see 29 CFR 1910.119(e)(2) and (3)(v)), and 40 CFR 68.67(c)). While EPA has not provided any guidance on how to adequately address stationary source siting in the PHA, RMP facility owners or operators can refer to industry guidance on siting considerations. The following publications provide guidance on facility siting:

- API Recommended Practice 752, Management of Hazards Associated With Location of Process Plant Buildings, 3rd Edition, December 2009;
- API Recommended Practice 753, Management of Hazards Associated with Location of Process Plant Portable Buildings, First Edition, June 2007;
- CCPS Guidelines for Evaluating Process Plant Buildings for External Explosions, Fires, and Toxic Releases, Second Edition, 2012; and
- CCPS Guidelines for Facility Siting and Layout (2003).

The first three references listed above focus on providing guidance and best practices on establishing the location of occupied buildings within a facility, but generally do not address the potential risks to offsite receptors associated with the location of the facility or processes within the facility, nor do they consider the potential for releases caused by natural hazards that may occur in particular locations. The CCPS Guidelines for Facility Siting and Layout address both external factors influencing site selection, as well as factors internal to the source that could influence site layout and equipment spacing.

At this time, EPA is not proposing any additional requirements for location of stationary sources. EPA seeks comment on whether such requirements should be considered for future rulemakings, including the scope of such requirements, or whether the Agency should publish guidance.

2. Emergency Shutdown

In addition to properly locating stationary sources in relation to surrounding receptors, and locating processes within sources so as to minimize the possibility of cascading release events, accidents such as these highlight the importance of being able to quickly and safely shut down processes

¹⁶⁴ Lees, Frank P. 1996. Loss Prevention in the Process Industries, Volume 3, 2nd ed. Appendix 5 Bhopal. Butterworth-Heinemann, Oxford, Great Britain.

¹⁶⁵ CSB. January 2016. Final Investigation Report, West Fertilizer Company Fire and Explosion, West, TX, April 17, 2013. Report 2013-02-I-TX, pp. 13, 30, 49, 53, 54. <http://www.csb.gov/west-fertilizer-explosion-and-fire/>.

¹⁶⁶ Lees, Frank P. 1996. Loss Prevention in the Process Industries, Volume 3, 2nd ed. Appendix 4 Mexico City. Butterworth-Heinemann, Oxford, Great Britain.

¹⁶⁷ CSB. July 9, 2008. Investigation Report: LPG Fire at Valero-McKee Refinery, Sunray, Texas, February 16, 2007. Report No. 2007-05-I-TX. <http://www.csb.gov/valero-refinery-propane-fire/>.

¹⁶⁸ EPA, Region 7, Emergency Response and Removal Branch (Kansas City, KS). January 1996. Chemical Accident Investigation Report: Terra Industries, Inc., Nitrogen Fertilizer Facility, Port Neal, Iowa (January 1996). <http://archive.epa.gov/emergencies/docs/chem/web/pdf/cterra.pdf>.

where accidental releases are occurring or may imminently occur. The RMP regulation requires owners and operators of stationary sources to develop and implement written operating procedures for the safe and timely emergency shutdown of Program 2 and Program 3 processes, to ensure operator training for these procedures, and for maintaining the mechanical integrity of emergency shutdown systems. However, the regulation does not explicitly require that all covered processes must include emergency shutdown systems.

EPA encourages owner and operators of stationary sources to consider location of stationary sources and process equipment and the adequacy of emergency shutdown systems at their facilities to determine if changes are necessary to both reduce risks of an accidental release and ensure that procedures are in-place to mitigate those effects. Emergency shutdown or putting a process into a safe operation mode in the event of an emergency is a preventive safeguard to address hazard(s) identified as part of hazard review or PHA. Thus, the hazard review required under § 68.50 or the PHA required under § 68.67 should identify the use of this safeguard, when appropriate.

At this time, EPA is not proposing any additional requirements for emergency shutdown systems. However, EPA seeks comment on whether such requirements should be considered for future rulemakings, including the scope of such requirements, or whether the Agency should publish guidance.

V. Emergency Response Preparedness Requirements

A. Emergency Response Program Coordination With Local Responders

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 § 68.95 to address how the owner or operator of the facility will respond to accidental releases.¹⁶⁹ 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 included in the community emergency response plan developed under section 303 of Emergency Planning & 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). An owner or operator that 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;
- Procedures for the use of emergency response equipment and for its inspection, testing, and maintenance;
- Training for employees; and
- 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 emergency response plan must also be coordinated with local response authorities.

An owner or operator of a facility who is relying 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 has coordinated response actions with the local fire department (for sources with only regulated flammable substances, and without regulated toxic substances) is not required to develop an emergency response program. However, the owner or operator must also ensure that appropriate notification mechanisms are in place to notify emergency responders when there is a need for a response.

Risk Management Program regulated facilities must indicate within their RMP whether or not they are a responding facility (*i.e.*, by indicating compliance with mandatory elements of emergency response plans required in § 68.95(a)(1)). Our review of the RMP*Info database has indicated that the majority of RMP facilities claim to be non-responding facilities.¹⁷⁰ 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.^{171 172 173} State and local

response officials echoed this concern during listening sessions conducted under Executive Order 13650, and in feedback provided to EPA in conjunction with the RFI.^{174 175} This problem occurs with both responding and non-responding facilities, but it is particularly troublesome for non-responding facilities, because if the facility itself does not maintain the capability to respond to emergencies, and local authorities are not able to respond, then a proper response to an accidental release at the facility may not occur or may be significantly delayed. Also, when local responders are unfamiliar with the hazards of the facility, they may not be prepared to safely respond.

Poor coordination between chemical facilities and local emergency responders has been identified as a factor contributing to the severity of chemical accidents. For example, following the August 2008 explosion and fire at the Bayer CropScience facility in Institute, West Virginia, the CSB found that lack of effective coordination between facility and local responders prevented responding agencies from receiving timely information updates about the continually changing conditions at the scene, prevented a public shelter-in-place order from reaching the local community, and may have resulted in toxic exposure to on-scene public emergency responders. Additionally, facility authorities initially prevented local responders from gaining access to the site of the incident.¹⁷⁶

The April 17, 2013 accident at West Fertilizer resulted in the deaths of 12

yosemite.epa.gov/opa/admpress.nsf/1e5ab1124055f3b28525781f0042ed40/9884f5d5e5e6368c852578d300642a3e!OpenDocument.

¹⁷² EPA Press Release. February 13, 2013. Koch Nitrogen Company to Pay \$380,000 Civil Penalty for CAA Violations at Facilities in Iowa and Kansas. <http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/a9537cb213c0371985257b1100738628!OpenDocument>.

¹⁷³ EPA Press Release. May 27, 2014. EPA Moves to Improve Emergency Planning at Facilities in NJ and NY; Inspections Focus on Information on Risk Management Programs Needed by First Responders during Emergency Responses. <http://yosemite.epa.gov/opa/admpress.nsf/0/C6DB6A8A0918857F85257CE5005FEE24>.

¹⁷⁴ Gablehouse, T. October 28, 2014. Comment No. EPA-HQ-OEM-2014-0328-0679 on Risk Management Program RFI, PDF pp. 5–6, NASTTPO, Denver, CO.

¹⁷⁵ Elder, M., October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0641 on Risk Management Program RFI, Oklahoma Hazardous Materials Emergency Response Commission (OHMERC).

¹⁷⁶ CSB. January 2011. Investigation Report: Pesticide Chemical Runaway Reaction Pressure Vessel Explosion, Bayer CropScience, LP, Institute, West Virginia, August 28, 2008. Report No. 2008-08-I-WV, http://www.csb.gov/assets/1/19/Bayer_Report_Final.pdf.

¹⁶⁹ Owners or operators of stationary sources with Program 1 processes are required to coordinate emergency response procedures with local emergency planning and response organizations under § 68.10(b)(3). This proposal would not affect that requirement.

¹⁷⁰ EPA. January 27, 2016. Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs under the Clean Air Act, Section 112(r)(7).

¹⁷¹ EPA Press Release. July 20, 2011. National Chemical Company will Upgrade Facilities and Pay Fine to Settle Clean Air Violations. <http://>

first responders. During its investigation of the accident, the CSB found that the LEPC did not include the facility in the community emergency response plan.¹⁷⁷

Another example is the August 2002 accidental chlorine release at the DPC Enterprises facility in Festus, Missouri, that resulted in sixty-three people from the surrounding community seeking medical evaluation at the local hospital for symptoms of respiratory distress. The CSB investigation found that the DPC emergency response plan did not provide clear guidance on when facility emergency response personnel should respond to a release or when response by an offsite community hazardous materials response team is required. The CSB also found that coordination between local emergency planning and response entities and DPC was insufficient to ensure that the emergency plan would provide for timely community notification and mitigation of the release.¹⁷⁸

CAA section 112(r) clearly anticipated that the Risk Management Program regulation would require regulated stationary sources to develop an emergency response program and provide for a response to releases of regulated substances. Section 112(r)(7)(B)(ii) states that the regulations shall require the owner or operator to “provide a prompt emergency response to any such releases in order to protect human health and the environment,” and that the RMP shall include:

a response program providing for specific actions to be taken in response to an accidental release of a regulated substance so as to protect human health and the environment, including procedures for informing the public and local agencies responsible for responding to accidental releases, emergency health care, and employee training measures.

Accordingly, in the preamble discussion of the 1996 final RMP rule, EPA explained that the option to be a non-responding facility was contingent on local community responders' ability to appropriately respond to the stationary source's hazards.

The final rule also provides relief for sources that are too small to respond to releases with their own employees; these sources will not be required to develop emergency response plans provided that

procedures for notifying non-employee emergency responders have been adopted and that appropriate responses to their hazards have been addressed in the community emergency response plan developed under EPCRA (42 U.S.C. 11003) for toxics or coordinated with the local fire department for flammables. (61 FR 31673, 31698, June 20, 1996.)

EPA recognizes that some sources will only evacuate their employees in the event of a release. For these sources, EPA will not require the development of emergency response plans, provided that appropriate responses to their hazards have been discussed in the community emergency response plan developed under 42 U.S.C. 11003 for toxics or coordinated with the local fire department for flammables. (61 FR 31681, June 20, 1996.)

Because many sources covered by this rule may be too small to handle emergency response themselves, EPA has provided, in this new section, the actions they must take if they will not respond to releases. Specifically, for sources with regulated toxic substances, the source must be addressed in the community emergency response plan developed under EPCRA section 303. Sources with regulated flammable substances must coordinate response actions with the local fire department. These sources must also establish a mechanism to contact local emergency responders. Sources that do not meet these requirements must comply with EPA's emergency response program requirements. (61 FR 31712, June 20, 1996.)

EPA also explained this point in the RMP Guidance:¹⁷⁹

If your employees will not respond to accidental releases of regulated substances, you need not comply with the emergency response plan and program requirements provided you coordinate with local response agencies to ensure that they will be prepared to respond to an emergency at your facility.

These excerpts from the 1996 final rule and RMP Guidance indicate that from its inception, the RMP rule has required that owners and operators of regulated sources must either meet the full emergency response program requirements of § 68.95 or ensure that local responders are capable of responding to releases at the source. In spite of this fact, the history of poor emergency response coordination during accidental releases, EPA's findings during compliance inspections, and recent feedback provided to EPA's RFI and during Executive Order 13650 listening sessions indicate that many regulated sources have not provided for an adequate emergency response.

1. Proposed Revisions to Emergency Response Coordination Requirements

EPA proposes to amend the rule requirements to clarify the obligations of the owner or operator of the stationary source to coordinate emergency response with local authorities. In order to provide clarity, EPA is proposing to reorganize subpart E to address the applicability provisions for responding and non-responding sources in § 68.90, describe required coordination activities in new § 68.93, and include a new requirement in § 68.95 for owners or operators of responding stationary sources to review and update their emergency response program at least annually.

EPA is proposing to reorganize § 68.90 to specifically describe the applicability of the emergency response program requirements for non-responding and responding facilities in paragraphs (a) and (b), respectively.

The proposed revisions to § 68.90 paragraph (a) describe the applicability provisions for non-responding facilities. The owner or operator of a stationary source need not comply with the emergency response program requirements in § 68.95 provided that after conducting coordination activities required under the proposed § 68.93, the local response authorities and the owner or operator of the stationary source determine that local public emergency response capabilities are adequate to respond to accidental releases at the stationary source; appropriate mechanisms are in place to notify emergency responders when an accident occurs; and the LEPC or equivalent local response authorities have not requested in writing that the owner or operator develop an emergency response program for the stationary source in accordance with § 68.95.

Section 68.90 paragraph (b) describes applicability provisions for responding facilities. The owner or operator of the stationary source would be required to comply with the emergency response program requirements of § 68.95 when the outcome of the annual coordination activities with local response authorities required under § 68.93 indicates that local public emergency response capabilities are not adequate to respond to accidental releases of regulated substances at the stationary source. If, as a result of the annual coordination, the facility owner or operator must develop an emergency response program in accordance with § 68.95, the owner or operator should develop the program as soon as reasonably practicable. The owner or operator would also be required to comply with § 68.95 upon

¹⁷⁷ CSB. January 2016. Final Investigation Report, West Fertilizer Company Fire and Explosion, West, TX, April 17, 2013. Report 2013-02-I-TX, pgs. 201-203. <http://www.csb.gov/west-fertilizer-explosion-and-fire/>.

¹⁷⁸ CSB. May 2003. Investigation Report: Chlorine Release, DPC Enterprises, L.P., Festus, Missouri, August 14, 2002. Report No. 2002-04-I-MO. http://www.csb.gov/assets/1/19/DPC_Report.pdf.

¹⁷⁹ General Guidance on Risk Management Programs for Chemical Accident Prevention (40 CFR part 68), EPA-550-B-04-001, April 2004, p. 8-1. <http://www2.epa.gov/rmp/guidance-facilities-risk-management-programs-rmp#general>.

receiving a written request to do so from the LEPC, local fire department, or other local emergency response officials having jurisdiction.

EPA believes that it is appropriate to provide a mechanism for the local emergency response officials to request that the owner or operator of the stationary source comply with the emergency response program requirements of § 68.95 because it is the presence of the source and its attendant hazards that create a risk to the surrounding community of accidental releases. Therefore, in the event that the outcome of the coordination activities with local response authorities indicates that local public emergency response capabilities are not adequate, the ultimate burden of providing for an appropriate response to releases of regulated substances from the source should rest with the owner or operator. This philosophy is consistent with the general duty clause of CAA section 112(r)(1), which among other things requires the owner or operator to minimize the consequences of accidental releases that do occur.

EPA is proposing to add § 68.93 to clarify emergency response coordination activities and require that these activities be documented and occur annually. Section 68.93 would require the owner or operator of a stationary source with a Program 2 or 3 process to coordinate with local response authorities to ensure that appropriate resources and capabilities are in place to respond to an accidental release of a regulated substance. As part of the coordination, the owner or operator and the local response authorities would work together to determine who will respond if an incident occurs, and what would be an appropriate response. Paragraph (a) would require coordination to occur at least annually, and more frequently if necessary, to address changes at the source; in the source's emergency action plan; in local authorities' response resources and capabilities; or in the local community emergency response plan. Paragraph (b) would require the owner or operator to document coordination with local authorities, including the names of individuals involved and their contact information (phone number, email address, and organizational affiliations), dates of coordination activities, and the nature of coordination activities. The proposed paragraph (c) specifies who should be involved in the coordination for both stationary sources with regulated toxic and flammable substances. If a stationary source involves a regulated toxic substance, then the source must be included in the

community emergency response plan developed under EPCRA.

EPA also proposes to revise § 68.95 to ensure that notification procedures include notifications to Federal, Tribal, and state agencies and to require that emergency response plans be updated at least annually. Specifically, EPA is revising § 68.95(a)(1)(i) to add a reference to Federal and state agencies. EPA is also proposing to revise § 68.95(a)(4) to specify that the owner or operator review and update the program annually or more frequently if necessary (e.g., to incorporate lessons learned from incident investigations, or if changes occur in emergency notification systems, local responder organizations, stationary source hazards, or other critical emergency response planning information). EPA is also proposing to revise § 68.95(c) to replace local emergency planning committee with the acronym LEPC.

Additionally, EPA is proposing to revise § 68.3 to add LEPC for local emergency planning committee. The term is used throughout the rule and means the LEPC as established under 42 U.S.C. 11001(c).

Finally, EPA is proposing to revise § 68.12 (General requirements) to be consistent with these proposed coordination requirements. EPA is proposing revisions to Program 2 requirements under § 68.12(c) in which EPA would renumber paragraph § 68.12(c)(4) and (c)(5) as § 68.12(c)(5) and (c)(6). New paragraph § 68.12(c)(4) would specify the owner or operator's requirements to coordinate response actions with local emergency planning and response agencies as provided in § 68.93. EPA is proposing similar revisions to Program 3 requirements under § 68.12(d). EPA would renumber paragraph § 68.12(d)(4) and (d)(5) as § 68.12(d)(5) and (d)(6). New paragraph § 68.12(d)(4) would specify the owner or operator's requirements to coordinate response actions with local emergency planning and response agencies as provided in § 68.93.

EPA believes that these proposed amendments clarify existing obligations and prevent situations where neither regulated stationary sources nor local authorities are prepared to appropriately respond to accidental releases at the source. EPA recognizes that an appropriate response—even for responding facilities—may sometimes involve evacuation of facility employees, evacuation or sheltering of nearby residents, and implementation of other defensive measures to prevent harm to workers, responders, and the public. However, planning for such situations should occur in advance, so

that either the source or local responders are prepared to implement response measures that are appropriate to the hazards of the stationary source.

If local public responders are not capable of responding to accidental releases at a stationary source, the owner or operator can continue to satisfy the applicable requirements of subpart E (Emergency Response) in a number of different ways beyond training and equipping the source's own employees to respond to releases. For example, EPA has observed situations where stationary source owners or operators supplement their on-site response capability using response contractors, or via mutual aid agreements with other nearby sources. In the RMP Guidance, EPA explained that this may be the most appropriate course of action to comply with the emergency response requirements of subpart E, particularly for small sources with few employees:¹⁸⁰

EPA recognizes that, in some cases (particularly for retailers and other small operations with few employees), it may not be appropriate for employees to conduct response operations for releases of regulated substances. For example, it would be inappropriate, and probably unsafe, for an ammonia retailer with only one full-time employee to expect that a tank fire could be handled without the help of the local fire department or other emergency responder. EPA does not intend to force such facilities to develop emergency response capabilities. At the same time, you are responsible for ensuring effective emergency response to any releases at your facility. If your local public responders are not capable of providing such response, you must take steps to ensure that effective response is available (e.g., by hiring response contractors).

Such arrangements would continue to be acceptable to the Agency as a means to meet a facility's emergency response program obligations. Alternatively, stationary source owners or operators can work with local emergency response officials to identify gaps in local responder capabilities, and assist local authorities in supplementing those capabilities, as appropriate, by providing the equipment or training needed to allow local public responders to prepare for and carry out an appropriate response to accidental releases at the source. Close and ongoing coordination between stationary source owners or operators and local responders will allow such capability gaps to be quickly identified and corrected and appropriate response

¹⁸⁰ See General Guidance on Risk Management Programs for Chemical Accident Prevention (40 CFR part 68), EPA-550-B-04-001, April 2004, page 8-1. <http://www2.epa.gov/rmp/guidance-facilities-risk-management-programs-rmp#general>.

plans to be developed. Coordination will also assist local responders in complying with other Federal, state, and local emergency preparedness, planning, and response requirements, such as planning requirements under EPCRA, training requirements under the OSHA Hazardous Waste Operations and Emergency Response standard (29 CFR 1910.120), and other applicable requirements.

As part of the SBAR Panel process, SERs expressed frustration with the requirement to coordinate with local emergency response officials because some LEPCs are not active or do not have sufficient resources to fully implement EPCRA requirements. SERs requested clarification on how to comply with coordination requirements when facility owners or operators make good faith efforts to coordinate with local emergency response officials who do not respond to coordination attempts. EPA recommends that these coordination attempts be documented and maintained at the facility. However, if the LEPC is inactive and has not developed a community emergency response plan or has not included the facility in the plan (for toxic substances), or the owner or operator is unable to coordinate response actions with the local fire department (for flammable substances), then the owner or operator must develop an emergency response program in accordance with § 68.95.

EPA seeks comment on this approach. Will the proposed amendments contribute to improvements in emergency response planning and coordination? Are there additional practices that EPA should consider that significantly improve planning and coordination? Should EPA further clarify what is necessary for RMP facility owners or operators to adequately coordinate their emergency response program with local authorities? Should coordination activities and emergency plan updates be required annually, or is some other frequency appropriate? How should disagreements between local authorities and the source owner or operator concerning which party should provide for an emergency response to releases of regulated substances at the source be resolved? When an LEPC makes a written request for the owner or operator to comply with the emergency response program requirements of § 68.95, should the LEPC be required to provide a rationale for the request that meets certain criteria, to ensure that the request is reasonable? If so, what criteria should be established?

2. Alternative Options

EPA considered an alternative that would require owners and operators of all stationary sources with Program 2 or Program 3 processes to comply with the full emergency response program requirements of § 68.95. Under this option, RMP facilities would still be required to perform the annual local coordination and to document activities described previously. However, it would eliminate the flexibility of the current rule and require all Program 2 and Program 3 facilities to be “responding” facilities. EPA did not propose this approach because it does not consider the existing capabilities of local responders and shifts to the regulated stationary sources the burden associated with developing and maintaining an appropriate and effective emergency response capability from local responders in communities that may have adequate capabilities. Additionally, EPA believes that this approach would place an unnecessary burden on small facilities.

EPA seeks comment on this alternative approach and whether there are any other alternative options that EPA should consider prior to issuing a final action.

B. Facility Exercises

Exercising an emergency response plan is critical to ensure that response personnel understand their roles, that local emergency responders are familiar with the hazards at the facility, and that the emergency response plan is appropriate and up-to-date. It ensures that personnel are properly trained and lessons learned from exercises can be used to identify future training needs.

Poor emergency response procedures during some recent accidents have highlighted the need for facilities to conduct periodic emergency response exercises. For example, the CSB’s investigation of the April 2004 vinyl chloride monomer (VCM) explosion at the FPC USA in Illiopolis, Illinois, found that the facility’s failure to rehearse a response to a large VCM release made the consequences of the accident significantly worse, and likely contributed to the deaths of operators at the facility.¹⁸¹ The CSB found that after the VCM release began, and despite knowingly working directly over a toxic and highly flammable VCM cloud, two operators did not put on protective breathing apparatus, activate emergency alarms, or evacuate the facility, contrary

to emergency response actions outlined in facility emergency procedures. These operators consequently died as a result of injuries received during the ensuing explosion.

Failure to conduct emergency exercises involving local authorities may also have resulted in injuries and fatalities to local responders. As previously indicated, 12 local responders died as a result of injuries received during the West Fertilizer explosion, and the CSB investigation report findings show that inadequate emergency planning contributed to the severity of the accident and that responders were not sufficiently aware of the risks at the facility.¹⁸² According to accident history information obtained from EPA’s RMP national database, accidents occurring between 2004 and 2014 resulted in at least 44 responder injuries and 2 additional fatalities.¹⁸³ The 2002 accident involving a chlorine release at DPC Enterprises in Festus, Missouri, resulted in 66 people seeking medical attention at the local hospital, including 63 members of the community surrounding the facility. The CSB’s investigation found that DPC’s emergency response plan had inadequate procedures for training and drills, and that these deficiencies resulted in DPC’s inadequate preparation for a large uncontrolled chlorine release.¹⁸⁴ In 2003, another DPC Enterprises facility in Glendale, Arizona, had an accident involving a large chlorine release. In that accident, 11 Glendale police officers responding to the accident were exposed to chlorine and required medical treatment. The CSB’s investigation found that police officers responding to the accident to assist in evacuation of nearby residents entered the hazardous area without any respiratory protection. The CSB recommended that the Glendale fire and police departments schedule periodic hazardous materials incident drills to ensure safe and effective responses to future hazardous materials incidents.¹⁸⁵

¹⁸² CSB. January 2016. Final Investigation Report: West Fertilizer Company Fire and Explosion, West, TX, April 17, 2013. Report No. 2013-02-I-TX, pp. 14, 116-117, 200-204, 241-242. <http://www.csb.gov/west-fertilizer-explosion-and-fire/>.

¹⁸³ EPA. January 27, 2016. Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs under the Clean Air Act, Section 112(r)(7).

¹⁸⁴ CSB. May 2003. Investigation Report: Chlorine Release, DPC Enterprises, L.P., Festus, Missouri, August 14, 2002. Report No. 2002-04-I-MO. http://www.csb.gov/assets/1/19/DPC_Report.pdf.

¹⁸⁵ CSB. February 2007. Investigation Report: Chlorine Release, DPC Enterprises, L.P., Glendale, Arizona, November 17, 2003. Report No. 2004-02-I-AZ. http://www.csb.gov/assets/1/19/DPC2_I-AZ.pdf.

¹⁸¹ CSB. March 2007. Investigation Report: VCM Explosion, FPC, Illiopolis, Illinois, April 23, 2004; Report No. 2004-10-I-IL. http://www.csb.gov/assets/1/19/Formosa_IL_Report.pdf.

On April 12, 2004, a runaway chemical reaction at MFG Chemical, Inc., in Dalton, Georgia, resulted in the release of toxic vapor clouds of allyl alcohol and allyl chloride into the surrounding community. The accident resulted in the evacuation of more than 200 families and medical treatment for 154 people, including 15 responders. The CSB found that MFG did not train or equip employees to conduct emergency mitigation actions, and that local emergency response agencies did not adequately prepare for responding to emergencies involving hazardous chemicals. The CSB recommended that the facility obtain equipment and provide emergency response training to employees, and that local agencies conduct drills for emergencies at fixed facilities.¹⁸⁶

Other EPA and Federal agency programs require exercises as an element of their emergency response programs. For example, under the Oil Pollution Prevention regulation (40 CFR part 112), facilities subject to the Facility Response Plan (FRP) provisions are required to conduct exercises, including evaluation procedures (§ 112.21). FRP facility owners and operators are encouraged to follow the National Preparedness for Response Exercise Program (PREP) Guidelines,¹⁸⁷ which were developed to provide a mechanism for compliance with EPA, U.S. Coast Guard (USCG), and U.S. Department of the Interior (DOI) exercise requirements for oil pollution response. The PREP guidelines include both internal and external exercise components. Internal exercises include notification exercises, emergency procedure exercises, spill management team tabletop exercises, and equipment deployment exercises. External exercises include area exercises that include members of the response community, and government-initiated unannounced exercises.

Other examples include exercises that the U.S. Nuclear Regulatory Commission (NRC), in conjunction with the Federal Emergency Management Agency, requires commercial nuclear power plant operators to perform with state and local governments. These exercises evaluate both on-site and offsite emergency response capabilities. The NRC requires all nuclear reactor emergency plans to address the

necessary provisions for coping with radiological emergencies at each facility in accordance with 10 CFR 50.54(q), Appendix E to 10 CFR 50, and for commercial nuclear power reactors only, 10 CFR 50.47(b). Reactor operators are required to train personnel and perform emergency preparedness exercises in order to test the adequacy of the plans, ensure personnel are familiar with their duties, and maintain response capabilities.

Some state and local regulations also require emergency response exercises. For example, the New Jersey TCPA, which incorporates the requirements of 40 CFR part 68, contains certain additional provisions imposed under state law, including a requirement for regulated facilities to perform at least one emergency response exercise per calendar year. Non-responding facilities are required to invite at least one outside responding agency designated in the emergency response plan to participate in the exercise, and employees of the facility are required to perform their assigned responsibilities for all emergency response exercises. Owners or operators of all other facilities are required to perform at least one full scale emergency response exercise in which the emergency response team as well as containment, mitigation, and monitoring equipment are deployed at a strength appropriate to demonstrate the adequacy and implementation of the plan.¹⁸⁸

In comments received from the Agency's recent RFI, the National Association of Superfund Amendments and Reauthorization Act (SARA) Title Three Program Officials (NASTTPO), which represents members of State Emergency Response Commissions (SERCs), Tribal Emergency Response Commissions (TERCs), and LEPCs, has encouraged EPA to require RMP facilities to conduct exercises that include local first responders and realistic accident scenarios.¹⁸⁹

In addition to specific Federal and state requirements for conducting exercises and the NASTTPO comments, industry guidelines recommend conducting exercises. The CCPS Guidelines for Risk Based Process Safety recommend periodically testing the adequacy of emergency response plans and level of preparedness of responders,

including contractors and local response agencies.¹⁹⁰

In the original proposed RMP rule (58 FR 54190, October 20, 1993), EPA had included within the emergency response program provisions a proposed requirement for regulated sources to conduct emergency exercises. In the final RMP rule (61 FR 31668, June 20, 1996), EPA decided not to finalize this requirement (and several other additional emergency response program provisions), for two reasons. First, the Agency decided to limit the emergency response program requirements to the minimum requirements contained in CAA section 112(r)(7) in order to avoid inconsistency with other emergency response planning regulations. Second, the Agency indicated that the additional requirements were already addressed in other Federal regulations and therefore, sources were already doing them. However, EPA's experience with implementing the RMP rule over nearly two decades, along with incidents such as those described above, indicate that many regulated sources do not regularly conduct emergency exercises that involve local response authorities. The Agency now believes that adding this provision to the regulation will likely reduce the severity of some accidents that do occur.

1. Proposed Exercise Program Requirements

In order to further improve coordination with community responders and ensure that both facility personnel and local responders have practice responding to accidental releases at RMP facilities, EPA is proposing to require most regulated facilities to perform exercises as an element of the emergency response program identified under subpart E. Proposed § 68.96 would require both responding and non-responding RMP facilities with any Program 2 or 3 process to perform emergency exercises.

a. Notification Exercises

EPA proposes a new paragraph § 68.96(a) to require facilities with any Program 2 or Program 3 process to annually perform an exercise of the source's emergency notification system. This exercise would include contacting the Federal, Tribal, state, and local public emergency response authorities, and other external responders that would respond to accidental releases at the source. The purpose of these notifications is to ensure facility

¹⁸⁶ CSB. April 2006. Investigation Report: Toxic Chemical Vapor Cloud Release, MFG Chemical, Inc., Dalton, Georgia, April 12, 2004. Report No. 2004-09-I-GA. http://www.csb.gov/assets/1/19/MFG_Report.pdf.

¹⁸⁷ USCG, EPA, and DOI. August 2002. National PREP Guidelines. http://www.au.af.mil/au/awc/awcgate/uscg/prep_gid.pdf.

¹⁸⁸ NJDEP, Title 7, Chapter 31 Toxic Catastrophe Prevention Act Program, Consolidated Rule Document, Section 7:31-5.2; http://www.state.nj.us/dep/rpp/brp/tcpa/downloads/conrulerev9_no%20fonts.pdf.

¹⁸⁹ Gablehouse, T. October 28, 2014. Comment No. EPA-HQ-OEM-2014-0328-0679 on Risk Management Program RFI, PDF pg 5-6, NASTTPO, Denver, CO.

¹⁹⁰ CCPS. 2007. Guidelines for Risk Based Process Safety. American Institute of Chemical Engineers, CCPS, NY, Wiley. pp. 513, 524-526, 538-540.

personnel understand how to initiate the notification system and to test the emergency contact information to ensure it is up-to-date. As part of the notification exercise, the individual making the notifications should clearly indicate that the call is part of an exercise to test the notification system. The owner or operator would be required to document these notification exercises and maintain a written record of each exercise conducted for a period of five years. The owner or operator would also be required to provide copies of the report to local response officials, and to make the report available to the public in accordance with §§ 68.205 and 68.210.

As non-responding facilities will rely on local authorities to respond to accidental releases at the source, EPA believes that the proposed facility notification exercises will be an important supplement to the existing requirement for local emergency plan exercises under EPCRA section 303(c)(9), which requires local emergency plans to include methods and schedules for exercising the plan. Responding facilities will be required to meet additional field and tabletop exercise requirements below, which in many cases will also involve the participation of local authorities. Notifications to Federal, state, and local officials conducted as part of the field or tabletop exercise may also serve to meet the annual notification exercise requirements provided that the owner or operator documents these notification exercises.

EPA is also proposing to modify § 68.95(a)(1)(i) to clarify that the emergency response program should include procedures for performing appropriate notifications to Federal and state emergency response agencies, as well as the public and local emergency response agencies, about accidental releases. This could include, for example, any required notifications to the National Response Center, as required by section 103(a) of CERCLA, and/or notifications to the SERC as required by section 304 of EPCRA.

b. Responding Facility Field and Tabletop Exercises

EPA is proposing a new paragraph § 68.96(b) to require responding facilities to develop and implement an emergency response exercise program that uses the emergency response plan required under § 68.95(a)(1). EPA is proposing to require two types of exercises—field exercises and tabletop exercises. The owner or operator would be required to coordinate with local public emergency response officials in

planning and conducting exercises, and invite local officials to participate in exercises. However, participation in an exercise by local responders is not required for a facility to comply with the exercise provisions.

i. Field Exercises

Field exercises involve the actual performance of emergency response functions during a simulated accidental release event. Field exercises involve mobilization of firefighters and/or hazardous materials response teams, activation of an incident command structure, deployment of response equipment, evacuation or sheltering of facility personnel as appropriate, and notification and mobilization of law enforcement, emergency medical, and other response personnel as determined by the scenario and the source's emergency response plan.¹⁹¹

Section 68.96(b)(1) would require the owner or operator to conduct an emergency response field exercise involving the simulated accidental release of a regulated substance at least once every five years and within one year of any accidental release meeting the criteria in § 68.42(a). If the facility is required to conduct a field exercise as a result of an RMP reportable accident, then this would effectively reset the timeframe for when the next five-year field exercise is due.

EPA is proposing that the scope of the field exercises would include tests of:

- Procedures for informing the public and the appropriate Federal, state, and local emergency response agencies about an accidental release;
- procedures and measures for emergency response after an accidental release of a regulated substance including evacuations and medical treatment;
- communications systems;
- mobilization of facility emergency response personnel;
- coordination with local emergency responders;
- equipment deployment, and
- other actions identified in the source's emergency response plan, as appropriate.

ii. Tabletop Exercises

Tabletop exercises are discussion-based exercises without the actual deployment of response equipment. During tabletop exercises, responders typically assemble in a meeting location and simulate procedural and communications steps for response to a simulated accidental release, as determined by the scenario and the source's emergency response plan.

In § 68.96(b)(2) EPA is proposing to require the owner or operator to annually conduct an emergency tabletop exercise involving the simulated accidental release of a regulated substance, except during years when field exercises are conducted. The scope of a tabletop exercise would include tests of:

- Procedures for informing the public and the appropriate Federal, state, and local emergency response agencies about an accidental release;
- procedures and measures for emergency response after an accidental release of a regulated substance including evacuations and medical treatment;
- identification of facility emergency response personnel and responsibilities;
- coordination with local emergency responders;
- procedures for the use of emergency response equipment, and other actions identified in the source's emergency response plan, as appropriate.

c. Exercise Reports & Program Updates

EPA is proposing in § 68.96(b)(3) to require the owner or operator to evaluate each exercise and prepare a written report within 90 days of the exercise. The report would include:

- A description of the exercise scenario;
- names and associations of each exercise participant;
- an evaluation of the results of the exercise including lessons learned;
- recommendations for improvement or revisions to the emergency exercise program and emergency response program; and
- a schedule to promptly address and resolve recommendations.

The report would also include an evaluation of the adequacy of coordination with local emergency response authorities, and other external responders, as appropriate. Section 68.96(b)(3) would also require the owner or operator to update the emergency exercise program and emergency response program at least annually, and more frequently if necessary to incorporate recommendations and lessons learned from emergency response exercises, incident investigations, or other available information. The owner or operator would also be required to provide schedules of exercises and copies of exercise reports to local response officials, and to make exercise reports available to the public in accordance with §§ 68.205 and 68.210. Exercise reports would be maintained for five years.

d. Updates to § 68.12 (General Requirements)

EPA is proposing to revise § 68.12 (General Requirements) to be consistent

¹⁹¹ EPA, May 1988. Guide to Exercises in Chemical Emergency Preparedness Programs, OSWER 88006.

with these proposed exercise requirements. EPA is proposing to revise the Program 2 and Program 3 requirements under § 68.12 by renumbering paragraph § 68.12(c)(4) as § 68.12(c)(5) (for Program 2) and § 68.12(d)(4) as § 68.12(d)(5) (for Program 3), adding a reference to exercise requirements, and correcting citations to subpart E.

EPA is aware that while not all facilities regulated under the RMP rule conduct emergency exercises, many do, and the Agency believes that exercises conducted in accordance with other Federal, state, or local requirements, or exercises conducted in conjunction with a facility's trade association membership or code of practice, etc., may be used to satisfy the new requirements to the extent those exercises address the specific regulatory provisions contained herein.

EPA seeks comment on this approach. Are there additional exercise provisions that EPA should consider to improve the ability of RMP facility personnel and local authorities to respond to accidental releases? Are annual exercises sufficient or should EPA consider alternative frequencies? What information regarding exercises would be most helpful to the public while maintaining a balance for security?" Some SERS expressed concern that local emergencies could force a facility to postpone an exercise. EPA seeks comments on how best to address emergency postponement and rescheduling of exercises. EPA also seeks comment on whether to eliminate the requirement for tabletop and field exercises.

2. Alternative Options

EPA considered two alternative approaches to requiring emergency exercises. The first alternative option would also require responding and non-responding facilities to conduct an annual emergency notification system exercise. However, under this option responding facilities would additionally be required to conduct only annual tabletop exercises; emergency field exercises would not be required. This alternative option would be a lower cost option for responding facilities, as field deployment of the source's equipment and personnel would not be required. However, it may also result in less realistic and less effective emergency exercises.

The second alternative approach considered by EPA would contain the same provisions for notification exercises as in the proposed option, but would require responding facilities to conduct field exercises annually,

instead of tabletop exercises. This approach would be similar to the New Jersey TCPA emergency exercise provisions, and provide for a comprehensive test of all systems under the emergency exercise program for responding facilities. However, the costs of this approach would be significantly higher than the proposed approach.

EPA seeks comment on these alternative approaches and whether there are any other alternative options that EPA should consider prior to issuing a final action.

VI. Information Availability Requirements

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 the responders and the local community. Throughout the many public meetings and outreach efforts related to Executive Order 13650, LEPCs, first responders, and members of the public stated that chemical facility information and data-sharing efforts need significant improvement.¹⁹² Specifically, LEPCs and first responders want to have access to the most relevant chemical hazard and risk information for their needs, in a user-friendly format, to better support planning and preparedness efforts. Community residents, operators of community facilities (such as daycares and nursing homes) and organizations consistently noted that they need basic information regarding chemical risks at facilities, presented in a clear and consistent manner, so that they can effectively participate in preparedness and planning to address such issues as effective emergency notification procedures, evacuation, and sheltering in place. In response to these issues, EPA is proposing ways to enhance information sharing and collaboration between chemical facility owners and operators, tribal and local emergency planning committees, first responders, and the public, in a manner that balances security and proprietary considerations. Some public commenters responding to EPA's RMP RFI elaborated the need for more public access to information about the RMP facilities. The Center for Science and Democracy (CSD) stated that public access to information is key to enabling communities to hold facility owners and

¹⁹² Chemical Facility Safety and Security Working Group. May 2014. Executive Order 13650 Report to the President—Actions to Improve Chemical Facility Safety and Security—A Shared Commitment, pgs. 93–94. https://www.osha.gov/chemicalexecutiveorder/final_chemical_eo_status_report.pdf.

operators accountable for reducing risks as much as possible, and for being prepared should an accident occur. According to CSD, facility owners and operators should be responsible for ensuring that appropriate measures are in-place to handle an emergency and should be fully communicating with local authorities on the development of community emergency response plans that include chemical facilities.¹⁹³

NASTTPO requested EPA consider providing information on emergency planning and exercises, audit reports, and RMP Executive summaries that include information such as accident histories, and names of RMP-regulated substances.¹⁹⁴

Oklahoma Hazardous Materials Emergency Response Commission (OHMERC) also commented and requested posting of chemical information including an RMP summary along with Tier2 information on a company Web site at a minimum. They also requested making the following information available to LEPCs: The facility emergency response plan, accident history, along with OCA.¹⁹⁵

The MKOPSC stated that most of the information is already available online and from LEPCs and need not be provided on a Web site. But MKOPSC noted that LEPCs can utilize the information to understand the risk in the communities and involve local facilities, local officials, SERCs, local citizens and EPA to have dialogues to improve regulatory compliance and promote safety. MKOPSC also believes it is also important to let the public understand how the facilities address the hazard present in their community and keep the risk at or below the "acceptable level." When local citizens have adequate information and knowledge, facility owners and operators may be motivated to continuously improve their safety in response to community pressure and oversight.¹⁹⁶

CCHS noted that requiring facility owners or operators to make this information available on the company Web site would promote improved regulatory compliance, because the more willing a facility is to be open and

¹⁹³ CSD. October 20, 2014. Comment No. EPA-HQ-OEM-2014-0328-0424 on Risk Management Program RFI, pgs. 2–3.

¹⁹⁴ Gablehouse, T. October 28, 2014. Comment No. EPA-HQ-OEM-2014-0328-0679 on Risk Management Program RFI, PDF p. 2, 4, & 6, NASTTPO, Denver, CO.

¹⁹⁵ Elder, M., October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0641 on Risk Management Program RFI, p. 3, OHMERC.

¹⁹⁶ MKOPSC. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0543 on Risk Management Program RFI, pgs. 162, 165.

transparent the greater that company is willing to address issues that relate to safety.¹⁹⁷ The United Steel Workers (USW) stated that making unrestricted RMP information publicly available would increase compliance, as it enables communities to hold facilities accountable and gives facilities greater incentive to strengthen safety measures and to comply with regulations.¹⁹⁸ The Coalition to Prevent Chemical Disasters (CPCD) believes that schools located within vulnerability zones of RMP facilities need to have chemical disaster drills in place, but that many schools are unaware of any risks. In CPCD's view, not informing communities about chemical risks reduces their ability to prepare for potential disasters involving specific chemical releases. CPCD argues that first responders need to know what chemicals they are facing and what emergency equipment to use. CPCD believes that information, such as compliance audits and incident investigation reports, should be disclosed to LEPCs and that with this information, active LEPCs can better include local communities in emergency planning and training.¹⁹⁹ CPCD made reference to testimony made six years prior to the West disaster by a former CSB chairperson about her concern for:

a lack of chemical emergency preparedness that our investigations have found among many communities where accidents strike. Preventing accidents and mitigating their impact requires an active partnership between communities and industrial facilities. If that partnership is missing, the stage is set for a potentially severe impact on the community.²⁰⁰

Poor communication between facility personnel and first responders, as well as poor communication between facility personnel and communities, has been shown to contribute to the severity of chemical accidents. One example is the Bayer CropScience explosion that occurred in Institute, West Virginia, in 2008. According to the CSB,

¹⁹⁷ CCHS. October 28, 2014. Comment No. EPA-HQ-OEM-2014-0328-0546 on Risk Management Program RFI pg. 13.

¹⁹⁸ USW. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0547 on Risk Management Program RFI, pg. 6.

¹⁹⁹ CPCD. October 29, 2014. Comment No. EPA-HQ-OEM-2014-0328-0644 on Risk Management Program RFI, pgs. 36-37.

²⁰⁰ CSB. July 10, 2007. CSB News Release: CSB Chairman Merritt Describes the Lessons from Five Years of Board Investigations to Senate Committee, Urges Additional Resources and Clearer Authorities for Federal Safety Efforts. <http://www.csb.gov/csb-chairman-merritt-describes-the-lessons-from-five-years-of-board-investigations-to-senate-committee-urges-additional-resources-and-clearer-authorities-for-federal-safety-efforts/>.

The Bayer fire brigade was at the scene in minutes, but Bayer management withheld information from the county emergency response agencies that were desperate for information about what happened, what chemicals were possibly involved . . . The Bayer incident commander, inside the plant, recommended a shelter in place; but this was never communicated to 911 operators. After a few hours of being refused critical information, local authorities ordered a shelter in place, as a precaution.²⁰¹

Improper communication between the facility and the first responders during the accident led to a delay in implementing a public shelter-in-place order for the local community, and may have resulted in toxic exposure to on-scene public emergency responders.

After a release of HF from the Citgo Refinery in Corpus Christi, Texas, in July 2009, nearby residents complained of headaches, nausea, and respiratory issues, though Citgo claimed that the toxic cloud stopped at the plant fence line. According to reports, neighbors could see the flames and smoke coming from the refinery, but they were unable to get information on the accident and potential risks to their community.²⁰²

The previous examples and public comments demonstrate the need for better communication of the potential risks associated with accidental releases at stationary sources. However, in making information more readily available EPA must also recognize and balance the associated security concerns because the public sharing of certain specific facility information and any associated vulnerabilities has the potential to aid terrorists in planning an attack. The RMP rule was published in 1996, before many computer-based and other information-sharing methods were widely used. At the time of initial publication of the rule, EPA expected information to be disclosed to the public through disclosure of the entire RMP. After the CSISSFRRA was enacted on August 5, 1999, EPA restricted access to OCA data for the public and government officials to minimize the security risks associated with posting the information on the internet (65 FR 48108, August 4, 2000). Governmental officials continue to have electronic access to OCA

²⁰¹ CSB. January 20, 2011. CSB issues report on 2008 Bayer CropScience explosion: Finds multiple deficiencies led to runaway chemical reaction; recommends states create chemical plant oversight regulation. <http://www.csb.gov/csb-issues-report-on-2008-bayer-cropscience-explosion-finds-multiple-deficiencies-led-to-runaway-chemical-reaction-recommends-state-create-chemical-plant-oversight-regulation/>.

²⁰² Morris, Jim and Chris Hamby, Center for Public Integrity. February 24, 2011; Updated May 19, 2014. Fueling Fears—Use of toxic acid puts millions at risk. <http://www.publicintegrity.org/2011/02/24/2118/use-toxic-acid-puts-millions-risk>.

information, subject to certain restrictions, while the public may view OCA information only at Federal Reading Rooms around the country and only for a limited number of RMPs at any one time. The non-OCA portions of the RMPs are available from EPA to the public either through Freedom of Information Act (FOIA) request, by inspection at Federal Reading Rooms, or from a person's SERC, LEPC, or related state or local government agencies.²⁰³

EPA is proposing to require certain information to be made available, upon request, to LEPCs and emergency response officials to help them to understand the potential risks at RMP regulated facilities, as well as to aid them in emergency planning and response activities. EPA is also proposing to amend the information sharing provisions for the public to make existing information more easily accessible to neighboring communities to encourage them to prepare for an emergency. EPA also believes that the revisions will likely contribute to the prevention of future chemical accidents. Cognizant of the spirit and intent of the CSISSFRRA, the proposed revisions do not disclose the substance or form of information subject to restriction under CAA 112(r)(7)(H) or 40 CFR part 1400.

EPA has two objectives for improving public information sharing provisions of the RMP rule. The first is to ensure that local emergency response and planning officials have the information they need to prepare for an emergency response to an accidental release at a stationary source. This includes determining what information is appropriate to improve community emergency response plans and ensure the safety of the local responders and the community. EPA must also determine the appropriate frequency for updating this information to avoid overwhelming local planners while ensuring information is current. While developing emergency response plans, LEPCs and facility owners or operators should also involve local citizens to help them understand the appropriate actions they should take in the event of an accidental release. This may reduce public panic and enable residents to act quickly and appropriately to protect themselves.

The second objective is to help improve public awareness of risks in their communities and provide information on where they can learn more about preparedness and

²⁰³ See 40 CFR part 1400: Accidental Release Prevention Requirements; Risk Management Programs Under the CAA Section 112(r)(7); Distribution of OCA Information (65 FR 48108, August 4, 2000). <http://www.gpo.gov/fdsys/pkg/FR-2000-08-04/pdf/00-19785.pdf>.

community emergency response plans. Any publicly available information should be in a format that is easily accessible. The goal is to encourage residents to learn about community emergency response plans and understand what actions they need to take during an emergency to protect themselves.

EPA is proposing to add provisions for sharing information, upon request, with LEPCs and/or emergency response officials and revise the existing provisions for sharing information with the public. EPA is also proposing that facility owners and operators conduct public meetings within 30 days of an RMP reportable accident to discuss chemical hazards present at facilities and provide information on accidental releases. These meetings can provide opportunities for facilities to engage the public to address concerns following an accidental release and explain how facilities will prevent future accidents.

A. Proposed Public Disclosure Requirements to LEPCs or Emergency Response Officials

EPA is proposing to add requirements to subpart H—Other Requirements that apply to all facilities regulated under the RMP rule, including facilities with Program 1 processes. EPA proposes to add § 68.205 to require owners and operators to provide information to local emergency responders and LEPCs upon request. If information required under this proposal is already available to the public on a company Web site, the owner or operator may comply by providing the Web site link to the first responders and LEPC. Paragraph § 68.205(a) would require that the RMP be accessible to local emergency responders and LEPCs in the exact same manner as the current requirement under § 68.210(a). A reference to 42 U.S.C. 7414(c), which covers information and reports (such as the RMP) required under section 42 U.S.C. 7412, is included to show the authority under which the non-OCA portion of an RMP shall be available to the public, except for any information that would divulge methods or processes entitled to protection of CBI or trade secrets. This reference is already part of the current § 68.210(a). A reference to 40 CFR part 1400 has been added to address the disclosure restrictions under CSISSFRRRA (*i.e.*, restrictions on the disclosure of OCA information). EPA is not changing its policy regarding OCA information. The reference to 40 CFR part 1400 only clarifies the statutory obligations that relate to securing this information.

Under paragraph § 68.205(b), EPA would require the owner or operator to develop summaries of specific chemical hazard information for all of their regulated processes and provide this information, upon request, to the LEPC or local emergency response officials as part of their emergency response coordination efforts. The facility should make information available in a manner that is understandable and avoids technical jargon. The information should be conveyed without revealing CBI or trade secret information. The information must adequately explain the findings, results, or analysis being provided.

The specific information that must be provided to LEPCs or emergency response officials upon request is outlined below:

Information on Regulated Substances. Information related to the names and quantities of regulated substances at the source (paragraph § 68.205(b)(1)). This only applies to regulated substances held in a process above the TQ.

Accident History Information. The facility's accident history information required under § 68.42 (paragraph § 68.205(b)(2)).

Compliance Audit Reports. Summaries of compliance audit reports required under §§ 68.58 and 68.59 (for Program 2 processes), or §§ 68.79 and 68.80 (for Program 3 processes), as applicable (paragraph § 68.205(b)(3)). The audit report summary shall include:

- The date of the report;
- The name and contact information of the auditor and the facility contact person;
- A brief description of the audit findings;
- An appropriate response to each of the findings; and
- A schedule for addressing each of the findings.

Incident Investigation Reports. Summaries of incident investigation reports required under § 68.60(d) (for Program 2 processes) or § 68.81(d) (for Program 3 processes), as applicable (paragraph § 68.205(b)(4)). The incident investigation report summary shall include:

- A description of the incident and events leading up to it, including a timeline;
- A brief description of the process involved;
- The names and contact information of personnel on the investigation team;
- The direct cause, contributing cause, and root cause of the incident;
- The on-site and offsite impacts;
- The emergency response actions taken;
- Any recommendations; and
- A schedule for implementing recommendations, as applicable.

Inherently Safer Technologies (IST). For each process in NAICS codes 322,

324, and 325, a summary of the IST or ISD identified in accordance with § 68.67(c)(8) that the owner or operator has implemented or plans to implement (paragraph § 68.205(b)(5)). The owner or operator shall update this summary as part of the calendar year submission if any of the summary information has been revised as a result of the safer technology analysis that is conducted as part of the update to the PHA prepared in accordance with § 68.67(f). The calendar year submission should also identify whether any revisions were incorporated. The IST/ISD summary shall include, at a minimum:

- The RMP process ID and process description, if provided, of the process affected;
- A brief description of the IST or ISD and which type of measure best characterizes it: Minimization, substitution, modernization, or simplification;
- The names of the regulated substance(s) whose hazard, potential exposure, or risk was or will be reduced as a result of the implementation and whether the substance is listed as toxic or flammable. If the chemicals affected are a mixture of flammable substances, the name "flammable mixture" may be used, instead of the individual flammable substance names; and
- The dates of implementation or planned implementation.

Exercises. Information on emergency response exercises conducted under § 68.96, including, at a minimum, schedules for upcoming exercises, reports for completed exercises, and other related information (paragraph § 68.205(b)(6)).

EPA believes that summary information on findings from incident investigations, compliance audits, exercises, and IST employed can demonstrate to local emergency response officials how a facility is improving its management of chemical risks and assist local emergency planners to understand and better prepare for these risks when developing community emergency response plans. Furthermore, EPA believes that disclosing information related to IST can help responders and planners to prioritize and allocate response resources. For example, IST implementation information may be relevant for emergency response personnel who are maintaining response capabilities to address a specific hazard that would no longer apply once an IST is implemented (such as by substituting a less hazardous chemical for an RMP-regulated substance).

Table 6 below summarizes the information to be developed under § 68.205(b) and identifies the applicable program level for each provision. The owner or operator need only provide

upon the LEPC's request information developed for this provision that is applicable to the program-level for each regulated process at the facility. For example, owners or operators of Program 2 processes must provide information on regulated substances in accordance with § 68.205(b)(1), accident history information in accordance with

§ 68.205(b)(2), compliance audit report summaries to LEPC or emergency response officials in accordance with § 68.205(b)(3), incident investigation report summaries in accordance with § 68.205(b)(4), and exercise schedules and report summaries in accordance with § 68.205(b)(6). Owners and operators of Program 3 processes must

provide all of the above information, as well as the IST information required under § 68.205(b)(5). Owners and operators of Program 1 processes would be required to provide only information on regulated substances in accordance with § 68.205(b)(1) and accident history information in accordance with § 68.205(b)(2).

TABLE 6—LEPC DISCLOSURE INFORMATION

Information to be provided, upon request, to LEPCs or emergency response officials in § 68.205.	Program level(s) applicability—program 1, 2, or 3
(b)(1) Information on regulated substances	1, 2, 3
(b)(2) Accident history information	1, 2, 3
(b)(3) Compliance audit report summaries	2, 3
(b)(4) Incident investigation report summaries	2, 3
(b)(5) IST summary	* 3
(b)(6) Exercise schedules and report summaries	2, 3

* Applies only to Program 3 facilities in NAICS codes 322, 324, and 325.

Submission Dates and Updates. According to § 68.205(c), EPA is proposing that the owner or operator update summary information every calendar year, including all applicable information that was revised since the last submission, and provide this information upon request.

Classified Information. EPA is proposing to add § 68.205(d) to address protection of classified information from disclosure. This provision is identical to the current § 68.210(b).

Confidential Business Information. EPA is proposing to add the acronym CBI to § 68.3 and to add § 68.205(e) to describe the process for claiming and handling CBI. EPA is proposing that an owner or operator asserting a CBI claim for information requested by an LEPC or local emergency response official under this section should submit a sanitized version to the LEPC or emergency response officials, and submit to EPA both the sanitized version and a version containing the CBI along with a substantiation of the CBI claim at the time it is asserted. This process for assertion and substantiation of CBI claims is the same as that required in §§ 68.151 and 68.152 for information contained in the RMP. As provided under § 68.151(b)(3), an owner or operator of a stationary source may not claim five-year accident history information as CBI. As provided in § 68.151(c)(2), an owner or operator of a stationary source asserting that a chemical name is CBI shall provide a generic category or class name as a substitute in its submission.

An owner or operator should be aware that anything they send to their LEPC in accordance with § 68.205(e) becomes public information. For any information

claimed as CBI when submitted to EPA and later submitted to the LEPC, the CBI claim regarding such information is waived. Therefore, if an owner or operator wants to maintain the confidentiality of information, when submitting such information to the LEPC, they should submit a sanitized version.

With these proposed requirements, EPA intends to ensure that LEPCs and emergency response officials have information on chemical hazards at regulated facilities and are better prepared to understand and prepare for risks to the communities and emergency responders. EPA encourages local emergency response officials to coordinate with owners or operators of regulated facilities and participate in emergency response exercises as time and resources allow. LEPC and local emergency response officials should use the information identified in § 68.205(b) to assist in revising the community emergency response plan developed under 42 U.S.C 11003 and related purposes.

EPA seeks comment on this approach. Will the proposed requirements improve the community emergency planning and preparedness? Is there additional information that should be shared with LEPCs or emergency response officials? For example, should EPA require the full safer technologies and alternatives analysis to be submitted to the LEPC? EPA also seeks comment on whether to require less information to be shared (e.g., limit incident investigation information to incidents with offsite impacts). Some SERs suggested that information be limited to a one page summary of each significant chemical hazard and

suggested including only the following elements: The name of the substance, its properties, its location, and recommended firefighting and emergency response measures. EPA seeks comment on this narrowed approach. Should EPA require owners or operators to periodically submit information to the LEPC or local responders, and if so, what timeframe should EPA consider? Is the proposed timeframe for updating information sufficient to ensure information is up-to-date? Should EPA require information to be updated only after the source receives a request from an LEPC or local emergency response official? If so, how much time is sufficient to allow development and submission of summaries following requests for information under this proposed provision? Should EPA specify a standard format for summary information in order to make it easier for local officials to interpret the information (e.g., specify a summary template for information on regulated substances, compliance audits reports, incident investigation reports, IST)?

B. Proposed Revisions to Requirements for Information Availability to the Public

Under paragraph § 68.210(a), EPA is proposing to add a reference to 40 CFR part 1400 to address CSISSFRRA disclosure restrictions (i.e., for OCA information). EPA is not changing its policy regarding OCA information. The reference to 40 CFR part 1400 only clarifies the statutory obligations that relate to securing this information.

EPA is proposing to redesignate the current paragraph § 68.210(b) that addresses the non-disclosure of

classified information by the Department of Defense or other Federal agencies or their contractors as § 68.210(e).

EPA is proposing a new paragraph (b) to require the owner or operator of a stationary source to distribute certain chemical hazard information for all regulated processes to the public in an easily accessible manner. EPA is proposing to require the owner or operator to distribute the following information, as applicable:

- Names of regulated substances held in a process above TQs;
- Safety Data Sheets (SDSs) for all regulated substances held above TQs at the facility;
- The facility's accident history required under § 68.42;
- Information concerning the source's compliance with § 68.10(b)(3) or the emergency response provisions of subpart E, including:
 - Whether the source is a responding stationary source or a non-responding stationary source;
 - Name and phone number of local emergency response organizations with which the source last coordinated emergency response efforts, pursuant to § 68.180; and
 - For sources subject to § 68.95, procedures for informing the public and local emergency response agencies about accidental releases.
- Information on emergency response exercises required under § 68.96, including schedules for upcoming exercises, reports for completed exercises as described in § 68.96(b)(3), and any other related information; and
- LEPC contact information, including LEPC name, phone number, and Web site address as available.

EPA believes that providing this information to the general public will allow people that live or work near a regulated facility to improve their awareness of risks to the community and to be prepared to protect themselves in the event of an accidental release. EPA also thinks that requiring facilities to provide summary information on the facility's emergency response plans and emergency exercises to the public, will provide assurance to the community that the facility is adequately prepared to properly handle a chemical emergency, should it arise. An additional benefit of sharing exercise schedules is to avoid unnecessary public alarm when exercises are conducted.

The facility owner or operator can make all the required information available to the public in a variety of ways. For example, the owner or operator could comply by making the information available on the facility or company Web site, if one is available. If the facility doesn't have a Web site, the

owner or operator could establish one. Alternatively, there are free or low cost internet platforms, file sharing services, and social media tools that are designed to share information with the public. As another option, the facility could make the information available in hard copy at publicly accessible locations such as a public library or a local government office. If the facility has the means to handle public visitors, it could choose to make the information available at the facility location. The facility could alternatively provide the information by email, upon request. EPA encourages the facility owner or operator to coordinate information distribution with the LEPC or local emergency response officials to determine the best way to reach public stakeholders.

EPA seeks comment on this approach. Is there additional information that should be shared with the public? For example, should EPA require the STAA proposed under § 68.67(c)(8), or a summary of that analysis, be shared with the public? Alternatively, should EPA further limit the information elements proposed? For example, how should EPA limit the disclosure of information in exercise reports that might reveal security vulnerabilities about the facility or emergency responders? Should EPA not require disclosure of names of individuals involved in exercises or facility security vulnerabilities revealed by the exercise? Is there an alternative way to improve community preparedness for safety purposes while balancing the security concerns to limit a terrorist's ability to use the information for an attack? Is there other information that community residents and operators of community facilities (such as schools, nursing homes, daycares) need in order to participate in emergency preparedness planning, particularly as it relates to effective incident notification, sheltering in place, and evacuation? EPA also seeks comment on the feasibility of these various options for providing information to the public and requests suggestions for other ways that the data could be made available. Lastly, EPA seeks comment on any challenges facility owners or operators would have in providing the information or challenges public stakeholders would have in obtaining the information. In order to inform the public of the location of the information, EPA is proposing to require under § 68.160(b) that the facility report in their RMP the location or means of public access to the information proposed to be disclosed under this subsection.

Submission Dates and Updates. EPA is proposing that the owner or operator

shall update and submit information required under § 68.210(b) every calendar year, including all applicable information that was revised since the last update.

Confidential Business Information. In § 68.210(f), an owner or operator asserting CBI shall submit a sanitized version of the information required under this section to the public. Assertion of claims of CBI and substantiation of CBI claims shall be in the same manner as required in §§ 68.151 and 68.152 for information contained in the RMP required under subpart G. As provided in § 68.151(c)(2), an owner or operator of a stationary source asserting that a chemical name is CBI shall provide a generic category or class name as a substitute. If an owner or operator has already claimed CBI for a portion of the RMP, then that claim still applies for the disclosure elements here. The owner or operator should provide a sanitized version as described in the RMP*eSubmit User's Manual.²⁰⁴

EPA seeks comment on this approach. Will the proposed requirements improve the knowledge sharing between regulated facilities and the public? Is there additional information that should be shared with the public stakeholders? Should EPA only require information to be shared upon request by the public? Alternatively, should EPA further limit the information we are proposing to be required, such as requiring only a one page summary that addresses chemical hazard information and emergency response measures? EPA could alternatively eliminate some of the required information elements or further limit information, such as by limiting accident history information to only those with offsite impact. Some SERs asked whether the existing RMP data or the RMP executive summary available to the public through existing sources (FOIA, Federal Reading rooms or other public sources who have compiled the data) are adequate to meet the information needs of the public.

Public Meetings. When the CSISSFRRRA was enacted in 1999, it included a section that required owners or operators of all facilities regulated under the RMP rule to hold a public meeting within 180 days of enactment.²⁰⁵ The purpose of the public meeting was to describe and discuss the local implications of the RMP to the community. Two or more stationary

²⁰⁴ See EPA, March 2014. RMP*eSubmit User's Manual. <http://www2.epa.gov/rmp/rmpesubmitters-manual>.

²⁰⁵ Chemical Safety Information, Site Security and Fuels Regulatory Relief Act, Public Law 106-40, August 5, 1999. See <http://www.gpo.gov/fdsys/pkg/STATUTE-113/pdf/STATUTE-113-Pg207.pdf>.

sources were allowed to conduct a joint meeting, while small businesses were allowed to instead post a summary of their OCA information no later than 180 days after enactment.

In paragraph § 68.210(d) EPA is proposing to require regulated facilities that have any accident meeting the five-year accident history criteria of § 68.42 to hold a public meeting within 30 days after the accident. This provides an opportunity for the owner or operator of the RMP facility to inform the community about the accident including, at a minimum, the information reportable under § 68.42. This includes information on:

- When the accident occurred;
- The nature of the accident including initiating event and contributing factors if known;
 - Chemicals involved and quantities released;
 - Weather conditions, if known;
 - On-site and offsite impacts;
 - Emergency response notifications; and
 - Operational or process changes that resulted, thus far, from investigation of the release.

EPA expects that, in some cases, sources will have completed the incident investigation required under § 68.60 or § 68.81 prior to holding the public meeting. This would allow the owner or operator to share appropriate information about the accident with the local community. However, in some cases, such as for complex, protracted investigations, the source may need to hold a public meeting prior to completing the incident investigation. In such cases, the owner or operator should consider holding a second public meeting after completing the incident investigation. Additionally, a public meeting must be held after accidents that destroy a process or stationary source or cause the process or source to be subsequently decommissioned. Stationary sources may combine public meetings with LEPC meetings or other events as long as those events/meetings are available for public participation.

Public meetings must also address other relevant chemical hazard information such as that described in § 68.210(b) and any other appropriate information that may improve safety and emergency preparedness activities in the community. The facility representative should describe the risks that are associated with the facility, and what the facility is doing to protect the public from those risks. In addition, the facility personnel should relay information that would assist the public to prepare for accidental releases. For example, at the meeting, the facility

representative should discuss the process for public emergency notification, procedures for sheltering in place or evacuating, and where to obtain further updates on the status of an emergency incident. The discussion should also address how the public can access community emergency response plans and identify what the community may expect to see during a field exercise.

As part of the SBAR Panel process, several SERs questioned the value of having any public meetings and noted that, when held in the past, public meetings were not well attended. Some SERs suggested altering the requirement to allow for the request of a public meeting if an LEPC or community felt it was necessary. Additionally, SERs expressed concern about the requirement to hold public meetings 30 days after an accident; the SER suggestions included expanding the timeframe from 60 days to 9 months. SERs also indicated that many small businesses may still be handling the aftermath of accidents, conducting incident investigations, and arranging audits in this time period, with limited attention to devote to educating the public.

EPA seeks comment on the proposed approach and whether there are other options that EPA should consider for public meetings. For example, should EPA require regular public meetings rather than only after an accident subject to reporting requirements under § 68.42? Should EPA require public meetings upon request by LEPCs, emergency responders or the public? Alternatively, should the public meeting requirement be restricted to an RMP reportable accidents with offsite impacts? Instead of requiring a public meeting after RMP reportable accidents, should EPA require owners and operators to meet only with LEPCs and emergency responders? If EPA finalizes the requirement to hold post-accident public meetings, should EPA extend the required timeframe to hold the meeting beyond 30 days (e.g. to 90 days), in order to give the owner or operator more time to learn about accident causal factors and prepare for a public meeting? If so, what extended timeframe should EPA choose and should EPA require the implementing agency to approve any extensions?

C. Alternative Options

EPA considered an option to require all facilities to hold public meetings at least once every five years (and within 30 days after an accident) to share chemical hazard information described under § 68.210(b) and any other

appropriate information that may improve safety and emergency preparedness activities in the community. However, EPA did not propose this requirement as our preferred option because of concerns raised by the SBAR Panel process that periodic public meetings are often sparsely attended.

EPA also considered limiting the requirement for periodic and post-accident public meetings to only Program 2 and Program 3 facilities; however, EPA did not propose this option as our preferred option because even though accidents at Program 1 facilities should not have significant public impacts, some communities near these facilities may still be interested in understanding the risks at the facility and the procedures and controls that are in place to limit offsite impacts. Additionally, if a Program 1 facility does have an RMP reportable accident with offsite impacts, EPA believes they should be held to the same standard as other facilities and be required to hold a public meeting within 30 days of the incident to provide additional information on the accidental release. Nevertheless, EPA is interested in receiving public feedback on whether EPA should consider requiring periodic public meetings and whether the requirement should be limited to Program 2 and Program 3 facilities.

EPA is also considering an option for supporting the public disclosure provisions with a “score card” or a “grade” system that could be provided by an independent third-party. The score or grade would be made available to the LEPCs and public to demonstrate the facility’s compliance with the RMP rule. This method could be used either instead of or in addition to what EPA is proposing. EPA requests information and recommendations on how to develop such a program, including the types of scoring criteria that should be used and any other issues that the Agency should consider when developing such a system.

EPA seeks comment on these alternative approaches and whether there are any other alternative options that EPA should consider for future actions.

VII. Risk Management Plan Streamlining, Clarifications, and RMP Rule Technical Corrections

A stationary source subject to the RMP rule is required to submit a RMP in a method and format specified by the EPA, pursuant to § 68.150(a). The CAA and 40 CFR subpart G require that the RMP indicate compliance with the regulations at 40 CFR part 68 and also

include information regarding the hazard assessment, prevention program, and emergency response program. The RMP also includes stationary source registration information, such as name, location and contact information. The EPA may review RMPs for information gathering, inspection preparation, errors in submissions, and changes requiring a correction or re-submission of the RMP. The CAA requires that RMPs be made available to states, local entities responsible for planning or responding to accidental releases at the source, the CSB, and the public. As a result, the information provided in an RMP is intended to be easily understood, thus encouraging the public, local entities, and governmental agencies to interact with stationary sources on issues related to accident prevention and preparedness.

The RMP format consists of a combination of check-off boxes, yes/no answers, numerical entries, and write-in information pertaining to the data best describing the various elements of the risk management program at a source. The nine sections of an RMP are: Registration Information; Toxics Worst Case; Toxics Alternative Release; Flammables Worst Case; Flammables Alternative Release; Accident History; Prevention Program: Program Level 3; Prevention Program: Program Level 2; and Emergency Response. Data elements in these sections address compliance with each of the rule elements. Some sections may not be applicable to all stationary sources, as some sections apply only to processes with certain program levels, and some apply only to certain types of regulated substances (toxics or flammables). The RMP also includes an Executive Summary, which allows stationary sources to provide a brief description of the source's prevention and preparedness activities as they relate to covered processes, in a format that is easy to understand.

Based on feedback received from the regulated community and EPA's own experience, EPA is proposing to revise several data elements in subpart G and to make technical corrections to the RMP rule. The following sections provide an overview of the proposed revisions.

A. Deletions From Subpart G

EPA is proposing to delete data elements that do not effectively assist the Agency in evaluating compliance with the RMP rule. EPA is also proposing to delete some data elements because the information can be obtained through improved coordination with Federal, state, and local agencies resulting from Executive Order 13650,

such as information currently required by §§ 68.160(b)(13) (the date of the last safety inspection of the stationary source by a Federal, state, or local government agency) and 68.160(b)(19) (OSHA Voluntary Protection Program status). EPA is proposing to delete other data elements because we believe an on-site inspection or formal information request are better ways to evaluate compliance with these Risk Management Program requirements (for example, some data elements pertaining to training, contractor safety, and maintenance/mechanical integrity). By removing several RMP data elements, EPA expects that the regulated community will find it easier to comply with subpart G requirements. In addition to burden relief for the regulated community, EPA expects that removing several RMP data elements will reduce the number of errors in RMPs submitted to the Agency.

B. Revisions to Subpart G

EPA is proposing to revise existing provisions in subpart G as follows:

- Modernize requirements to include electronic contact information if it exists, such as email addresses and Web site homepages;
- Revise provisions to remove a portion of select data elements that would be better evaluated during an on-site inspection or information request;
- Provide consistency with RMP**e*Submit;
- Provide more consistency in the data collected for similar data elements in the Program 2 and Program 3 prevention programs; and
- Replace data elements that were not effective in demonstrating a stationary source's compliance with the rule, with one that will demonstrate compliance.

Data elements that require a date to demonstrate compliance can become irrelevant during the typical five-year RMP resubmission cycle. An example is a stationary source that submitted an RMP to the EPA on January 8, 2015, that included an annual operating procedures review date of January 1, 2015, in its RMP in accordance with § 68.175(f). Assuming the stationary source will not have any changes that would require a resubmission of the RMP and the stationary source will not voluntarily correct the RMP with newer annual standard operating procedure (SOP) review dates, the January 1, 2015, annual SOP review date does not provide compliance information for years 2016–2019. As a result, the annual SOP review date in this example only provides compliance information for 2015. Because the dates of most recent review or update of a process safety element in an RMP do not always reflect compliance with regulatory

requirements, EPA is proposing to replace most of these dates with the RMP Certifying Official's attestation that the stationary source complies with each Risk Management Program requirement.

Data elements for which the last review or revision dates are being replaced include:

- For Program 2 and Program 3: Safety information, operating procedures, training programs, maintenance procedures, changes triggering review of any of the previous data elements or the hazard review/PHA;
- For Program 3 only: MOC, pre-startup review, employee participation plans, hot work permit procedures, contractor safety procedures and performance; and,
- For sources with Emergency Response Programs: Emergency response plans and emergency response training of employees.

EPA will still require the date of the most recent hazard review or PHA or their update (required every 5 years), date of most recent compliance audit (required every 3 years), and date of most recent incident investigation (required only when an incident occurs). These data elements are not updated as frequently as the other program elements, and are therefore more likely to indicate current compliance with regulatory requirements.

C. Additions to Subpart G

In addition to removing and revising several RMP data elements, EPA is proposing to add several RMP data elements in subpart G based on the proposed rule requirements discussed in this document. This includes new data elements to address compliance with:

- Third-party audit requirements,
- Root cause analysis requirements as part of incident investigations;
- IST analysis requirements in the PHA;
- Emergency response preparedness requirements including information on local coordination and emergency response exercises; and
- Information sharing provisions.

By adding these data elements to the RMP requirements in subpart G EPA will be able to evaluate a stationary source's compliance with these proposed rule requirements once they are finalized.

D. Proposed Amendments and Technical Corrections

1. Proposed Revisions to § 68.160 (Registration)

EPA is proposing to delete and reserve:

- § 68.160(b)(13)—The date of the last safety inspection of the stationary source by

a Federal, state, or local government agency and the identity of the inspecting agency; and

- § 68.160(b)(19)—OSHA Voluntary Protection Program status (Optional).

EPA is proposing to revise:

- § 68.160(b)(1) by removing the method for obtaining latitude and longitude (but keep the rest of § 68.160(b)(1));
- § 68.160(b)(4) by requiring an email address for the owner or operator, if that person has an email address, rather than making it optional;
- § 68.160(b)(5) by removing “position” and requiring an email address for the person with overall responsibility for RMP elements and implementation, if that person has an email address (rather than making it optional);
- § 68.160(b)(9) by adding “equivalent” to clarify that the number of full-time employees means full-time equivalent employees to be consistent with RMP* eSubmit;
- § 68.160(b)(12) by adding the phrase “and if so” to clarify that if the stationary source has a CAA Title V operating permit, then the RMP plan must include the permit number;
- § 68.160(b)(14) by requiring an email address for the contractor who prepared the RMP (if any), if the contractor has an email address;
- § 68.160(b)(15) by requiring an email address for the source or parent company, if the source or parent company has an email address;
- § 68.160(b)(16) by requiring a source internet address, if the source has an internet address;
- § 68.160(b)(17) by requiring a phone number at the source for public inquiries, if the source has a public inquiries phone number;
- § 68.160(b)(18) by requiring the name, phone number, email address, and internet address for the LEPC, if the LEPC has such information available; and
- § 68.160(b)(20) by changing facility to stationary source in subparagraphs (b)(20)(ii) and (b)(20)(iv).

EPA is proposing to add the following RMP data elements that relate to the information sharing provisions being proposed in this document:

- § 68.160(b)(21) would require an attestation that chemical hazard-related information is available to the LEPC or emergency response officials, as set forth in § 68.205;
- § 68.160(b)(22) would require an attestation that chemical hazard-related information is available to the public, as set forth in § 68.210; and
- § 68.160(b)(23) would require the date of most recent public meeting, as set forth in § 68.210(d).

2. Proposed Revisions to § 68.170 (Prevention Program/Program 2)

EPA is proposing to delete the requirement in § 68.170(k) which identify the date of the most recent change that triggered a review or

revision of safety information, the hazard review, operating or maintenance procedures, or training. EPA is proposing to revise:

- § 68.170(a) by changing the reference to paragraph (k) to paragraph (j) because we are proposing to delete paragraph (k).
- § 68.170(d) by reorganizing into subparagraphs (d)(1) and (d)(2). EPA is proposing to replace the date of the most recent review or revision of the safety information with an attestation that the safety information requirements, in § 68.48, are implemented. EPA is also proposing to move the requirement to list all Federal and state regulations, industry specific and established company or stationary source design codes and standards that are applicable, and the requirement to identify those followed, into subparagraph (d)(2).
- § 68.170(e) by reorganizing the date of completion of the most recent hazard review or hazard review update to § 68.170(e)(1) and removing from § 68.170(e)(1), the requirement to identify an expected date of completion of any changes resulting from the hazard review;
- § 68.170(f) by replacing the date of the most recent review or revision of operating procedures with an attestation that the operating procedures requirements, in § 68.52, are implemented;
- § 68.170(g) by replacing the date of the most recent review or revision of training programs with an attestation that training requirements, in § 68.54, are implemented. EPA is also proposing to delete the requirements to identify the types of training provided and competency testing used in subparagraphs (g)(1) and (g)(2);
- § 68.170(h) by replacing the date of the most recent review or revision of maintenance procedures and the date of the most recent equipment inspection or test and the equipment inspected or tested with an attestation that the maintenance requirements, in § 68.56, are implemented;
- § 68.170(i) by reorganizing into subparagraphs. EPA would add an attestation that the compliance audit requirements of § 68.58 are implemented in subparagraph (i)(1) and move the requirement to identify the date of the most recent compliance audit to subparagraph (i)(2). EPA would remove the requirement to identify the date of completion of any changes resulting from the compliance audit; and, in subparagraph (i)(3), add a requirement that the owner or operator identify whether the most recent compliance audit was a third-party audit, pursuant to §§ 68.58 and 68.59; and
- § 68.170(j) by reorganizing into subparagraphs. EPA would add an attestation that the incident investigation requirements, in § 68.60, are implemented in subparagraph (j)(1) and move the date of the most recent incident investigation into subparagraph (j)(2). EPA would delete the requirement to identify the expected date of completion of any changes resulting from the investigation, and, in subparagraph (j)(3), would add a requirement that the plan indicate whether root cause analyses have been completed for all accidents and incidents that are subject to the requirements of § 68.60.

3. Proposed Revisions to § 68.175 (Prevention Program/Program 3)

EPA is proposing to delete paragraph § 68.175(p) because we are addressing the data elements for contractor safety procedures in paragraph (o).

EPA is proposing to revise the following provisions:

- § 68.175(a) by changing the reference to paragraph (p) to paragraph (o) because we are proposing to combine the data elements in paragraphs (p) and (o) that show compliance with the requirements for contractor safety procedures.
- § 68.175(d) by reorganizing into subparagraphs (d)(1) and (d)(2). EPA is proposing to replace the date of the most recent review or revision of the safety information with an attestation that the PSI requirements, in § 68.65, are implemented. EPA is also proposing to move the requirement to list all Federal and state regulations, industry-specific and established company or stationary source design codes and standards that are applicable, and the requirement to identify those followed, into subparagraph (d)(2);
- § 68.175(e) by reorganizing existing requirements into subparagraphs (e)(1) and (e)(2) and adding new requirements addressing safer technology and alternatives in new subparagraph (e)(2). Subparagraph (e)(1) would apply to information on the PHA or PHA update and revalidation information. EPA would move the date of completion of the most recent PHA or update and require the plan identify the technique used to § 68.170(e)(1)(i). EPA would delete the requirement to identify the expected date of completion of any changes resulting from the PHA. Additional PHA information would move to subparagraph (e)(1)(ii) through (vi). EPA would add subparagraph (e)(2) to address requirements for safer alternatives including: An attestation that the PHA address safer technology and risk management measures, as required in § 68.67(c)(8); whether any IST or ISD were implemented and if so, the technology category that describes the IST or ISD (*i.e.*, substitution, minimization, simplification, and/or moderation);
- § 68.175(f) by replacing the date of the most recent review or revision of operating procedures with an attestation that the operating procedures requirements, in § 68.69, are implemented;
- § 68.175(g) by replacing the date of the most recent review or revision of training programs with an attestation that training requirements, in § 68.71, are implemented. EPA is also proposing to delete the requirements to identify the types of training provided and competency testing used in subparagraphs (g)(1) and (g)(2);
- § 68.175(h) by replacing the date of the most recent review or revision of maintenance procedures and the date of the most recent equipment inspection or test and the equipment inspected or tested with an attestation that the mechanical integrity requirements, in § 68.73, are implemented;
- § 68.175(i) by replacing the date of the most recent change that triggered MOC

procedures and the date of the most recent review or revision of MOC procedures with an attestation that the MOC requirements, in § 68.75, are implemented;

- § 68.175(j) by replacing the date of the most recent pre-startup review with an attestation that the pre-startup review requirement, in § 68.77, are implemented;
- § 68.175(k) by reorganizing into subparagraphs. EPA would add an attestation that the compliance audit requirements of § 68.79 are implemented in subparagraph (k)(1) and move the requirement to identify the date of the most recent compliance audit to subparagraph (k)(2). EPA would remove the requirement to identify the expected date of completion of any changes resulting from the compliance audit; and, in subparagraph (k)(3), add a requirement that the owner or operator identify whether the most recent compliance audit was a third-party audit, pursuant to §§ 68.79 and 68.80;
- § 68.175(l) by reorganizing into subparagraphs. EPA would add an attestation that the incident investigation requirements, in § 68.81, are implemented in subparagraph (l)(1) and move the date of the most recent incident investigation into subparagraph (l)(2). EPA would delete the requirement to identify the expected date of completion of any changes resulting from the investigation; and, in subparagraph (l)(3), would add a requirement that the plan indicate whether root cause analyses have been completed for all accidents and incidents that are subject to the requirements of § 68.81;
- § 68.175(m) by replacing the date of the most recent review or revision of employee participation plans with an attestation that employee participation requirements, § 68.83, are implemented;
- § 68.175(n) by replacing the date of the most recent review or revision of hot work permit procedures with an attestation that the hot work permit requirements, in § 68.85, are implemented; and
- §§ 68.175(o) and 68.175(p) by replacing the date of the most recent review or revision of contractor safety procedures and the date of the most recent evaluation of contractor safety performance with an attestation in § 68.175(o) that the contractor safety requirements, in § 68.67, are implemented.

4. Proposed Revisions to § 68.180 (Emergency Response Program)

Subpart G § 68.180 contains the emergency response program data elements that must be included in the RMP. Although the data elements in § 68.180 are intended to help identify whether stationary source personnel will respond to an accidental release of a regulated substance, the existing data elements do not clearly distinguish between responding stationary sources and non-responding stationary sources. As a result, many non-responding stationary sources are submitting RMPs to the EPA with errors, because they appear to be answering questions that were only meant to be answered by responding sources. Consequently, the RMP data do not indicate with certainty,

whether a stationary source is a responding or non-responding stationary source.

The proposed revisions to add emergency response exercises and revise local coordination provisions of the rule are intended to improve coordination with local response authorities and to bolster emergency response capabilities and preparedness for accidental releases. Because of the proposed regulatory changes to subpart E- emergency response, and due to the difficulty in distinguishing between responding and non-responding facilities in subpart G § 68.180, the EPA is proposing to completely revise and reorganize subpart G § 68.180 into the following three parts: Requirements for (1) all non-responding and responding stationary sources, (2) non-responding stationary sources, and (3) responding stationary sources. The EPA believes that splitting subpart G § 68.180 into three parts will aid facilities' understanding of the reporting requirements, reduce errors in submitted RMPs, and improve compliance with the RMP requirements. The proposed revisions to subpart G § 68.180 will also improve EPA's ability to evaluate a facility's compliance with the proposed Emergency Response Program requirements.

EPA is proposing to revise:

- § 68.180(a) by deleting the phrase "the following information." The text in subparagraphs (a)(1) through (a)(3) would be reorganized and/or replaced. Subparagraph (a)(1) would require the RMP to identify the name, organizational affiliation, phone number, and email address of local emergency planning and response organizations with which the stationary source last coordinated emergency response efforts, pursuant to § 68.10(b)(3) or § 68.93. Subparagraph (a)(2) would require the RMP to identify whether coordination with the local emergency response organizations is occurring at least annually, pursuant to § 68.93(a). Subparagraph (a)(3) would require the RMP to identify a list of Federal or state emergency plan requirements to which the stationary source is subject. EPA would delete subparagraphs (a)(4) through (a)(6);
- § 68.180(b) by replacing the current text with a requirement to identify whether the facility is a responding or non-responding stationary source, pursuant to § 68.90. EPA would reorganize the paragraph into subparagraphs as follows:
 - Subparagraph (b)(1) would apply to non-responding stationary sources. In subparagraphs (b)(1)(i) through (b)(1)(iii) the owner or operator would be required to identify whether the owner or operator has confirmed that local responders are capable of responding to accidental releases at the source, whether appropriate notification mechanisms are in place, and whether a notification exercise occurs at least annually.

- Subparagraph (b)(2) would apply to responding stationary sources. In subparagraphs (b)(2)(i) through (b)(2)(v) the owner or operator would be required to identify whether the LEPC or local response entity requested that the stationary source be a responding facility; whether the stationary source complies with requirements in § 68.95; whether a notification exercise occurs at least annually, as required in § 68.96(a); whether a field exercise is conducted every five years and after any RMP reportable accident, pursuant to § 68.96(b)(1)(i); and whether a tabletop exercise occurs at least annually, except during the calendar year when a field exercise is conducted, as required in § 68.96(b)(2)(i).

EPA is proposing to delete § 68.180(c), which requires the owner or operator to list other Federal or state emergency plan requirements to which the stationary source is subject.

5. Technical Corrections

a. Proposed Revisions to § 68.10 (Applicability)

EPA is proposing to correct a typographical error in § 68.10(b)(2). Section 68.10(b)(2) uses the term public receptor and indicates that public receptor is defined in § 68.30; however the term public receptor is defined in § 68.3, not § 68.30. The proposed rule language corrects this typographical error.

b. Proposed Revisions to § 68.48 (Safety information)

EPA is proposing to remove the word "material" from the term Material Safety Data Sheet in § 68.48(a)(1) to conform with OSHA's revised terminology for SDS. In 2012, OSHA made changes to its Hazard Communication Standard at 29 CFR 1910.1200 in order to align with the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Revision 3 (77 FR 17574, March 26, 2012). One change was the change in nomenclature from "Material Safety Data Sheets" to "Safety Data Sheets." Consequently, OSHA made this change to the PSM standard at 1910.119(d)(1)(vii) (78 FR 9311, February 8, 2013). Chemical producers and users must comply with new SDS requirements by June 1, 2015.²⁰⁶ In order to be consistent with OSHA and the UN GHS, EPA is proposing to replace "Material Safety Data Sheet" with "Safety Data Sheet" in § 68.48(a)(1).

²⁰⁶ OSHA Fact Sheet- Hazard Communication Standard Final Rule. <https://www.osha.gov/dsg/hazcom/HCSFactsheet.html>.

c. Proposed Revisions to §§ 68.54 and 68.71 (Training)

The RMP rule requires initial and refresher training for employees operating a Program 2 or Program 3 covered process. Since the inception of the rule, however, there has been confusion on the types of employees that are considered workers operating a covered process. Although “employee” is not defined in § 68.3, EPA has traditionally interpreted an employee to be any worker that is involved in operating a process, including supervisors. This is consistent with the OSHA definition of employee set forth at 29 CFR 1910.2(d).

EPA has noted during facility inspections that some owners and operators are confused about how the existing training requirements apply to supervisors involved in process operations. If a supervisor is involved in decision-making for process operations, such as making changes to operating parameters, developing or approving operating procedures, or conducting emergency operations, then EPA expects that the supervisor receives initial and refresher training appropriate to the supervisor’s responsibilities. In such cases, the training of a supervisor might not need to be as extensive as that of an operator, but EPA expects that the supervisor training would include process operations for which the supervisor might have decision-making authority. For this reason, EPA is proposing to clarify that the training requirements in §§ 68.54 and 68.71 (for Program 2 and Program 3 facilities, respectively) apply to supervisors who are involved in operating a covered process by adding paragraph (e) to indicate that the term employee includes supervisors.

Similarly, the EPA realizes that there may be other employee types involved in operating a covered process besides operators. For example, process engineers and maintenance technicians may occasionally be involved in process operations. The degree of involvement for these other employee types may vary greatly. Therefore, EPA is proposing to revise § 68.54(d) to clarify that the requirement applies to employees involved in operating a process. For employees other than operators and supervisors, EPA expects that initial and refresher training will be appropriate to the employee’s responsibilities in operating the process.

Finally, EPA believes that Program 3 requirements in §§ 68.71(a) and 68.71(b) provides clearer regulatory language regarding the applicability of employees subject to initial and refresher training

requirements than the similar Program 2 requirements §§ 68.54(a) and 68.54(b). Specifically, §§ 68.71(a) and 68.71(b) indicates that initial and refresher training is required for employees “involved in” operating a covered process. Because EPA believes that this language can better facilitate compliance for Program 2, the EPA is proposing to add similar language for Program 2 facilities at §§ 68.54(a) and 68.54(b).

d. Proposed Revisions to § 68.65 (PSI)

EPA is proposing to revise § 68.65(a) in order to remove irrelevant text regarding the timeframe for initial development of PSI and to more clearly demonstrate that PSI must be kept up-to-date. The EPA believes that these proposed changes will help Program 3 facilities to better comply with PSI requirements.

EPA is proposing to revise § 68.65(a) to remove the phrase “In accordance with the schedule set forth in § 68.67.” This language appears to have been adopted from OSHA’s PSM PHA completion schedule of May 1994 to May 1997 and is not relevant to the RMP rule because the compliance date of June 21, 1999 is after OSHA’s PSM PHA completion schedule. Additionally, the only schedule currently referenced in § 68.67 is in § 68.67(e), which pertains to a written schedule of PHA corrective actions. Because § 68.67(e) does not pertain to when a PHA must be completed, EPA is proposing to remove the phrase “In accordance with the schedule set forth in § 68.67” from § 68.65(a).

Furthermore, EPA is proposing to add the phrase: “and shall keep PSI up-to-date.” EPA has always intended that PSI be kept up-to-date for Program 3 facilities. Updated PSI is necessary to properly update or revalidate the PHA every 5 years as required by § 68.67(f). PSI items that that need to be kept up-to-date include, but are not limited to, piping and instrumentation diagrams, SDSs, hazard information, and changes to the design of the process. Although PSI must be updated for Program 3 facilities through MOC requirements in § 68.75(d), EPA believes that the proposed change makes it clearer that PSI must be kept up-to-date. This proposed change also ensures consistency with the safety information requirement for Program 2 facilities, where § 68.48(a) indicates “The owner or operator shall compile and maintain the following up-to-date safety information. . . .” EPA expects that revising § 68.65(a) in this manner will further clarify the requirement that PSI

must be completed prior to conducting a PHA.

Finally, in order to be consistent with OSHA and the GHS, EPA is proposing to replace “Material Safety Data Sheet” with “Safety Data Sheet” in the note to § 68.65(b).

e. Proposed Revisions to § 68.130 List of Substances

EPA is proposing revisions to Tables 1, 2, and 4 in § 68.130 as follows:

Table 1 to § 68.130—List of Regulated Toxic Substances and TQs for Accidental Release Prevention. EPA is proposing to correct a typographical error in the Chemical Abstracts Service (CAS) number (no.) for allyl alcohol in Table 1 in § 68.130. The incorrect CAS no. of 107–18–61 for allyl alcohol would be corrected to 107–18–6.

Table 4 to § 68.130—List of Regulated Flammable Substances and TQs for Accidental Release Prevention. EPA is proposing to correct a typographical error to the CAS no. for 1, 3-Butadiene, to read 106–99–0, instead of 196–99–0, right justify the first CAS nos. column and delete the second CAS nos. column because it is redundant.

f. Proposed Revisions to § 68.200 (Recordkeeping)

EPA is proposing to revise § 68.200 to clarify that records must be maintained at the stationary source.

VIII. Compliance Dates

The initial Risk Management Program rule 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 provisions of this proposal modify terms of the existing rule, and, in some cases, clarify existing requirements. The statute does not directly address when amendments should become applicable. Therefore, in modifications to § 68.10, EPA is proposing to:

- Require compliance with emergency response coordination activities within one year of an effective date of a final rule;
- Provide up to three years for the owner or operator of a non-responding stationary source to develop an emergency response program in accordance with § 68.95 following an LEPC or equivalent’s written request to do so;
- Comply with new provisions, unless otherwise stated, four years after the effective date of the final rule; and
- Provide regulated sources one additional year (*i.e.*, five years after the effective date of the final rule) to correct or resubmit RMPs to reflect new and revised data elements.

EPA is proposing that within one year of the effective date of a final rule, the owner or operator of a stationary source comply with emergency response

coordination activities in §§ 68.93(a) and 68.93(b). This includes coordinating response needs annually with local emergency planning and response organizations to ensure resources and capabilities are in place to respond to an accidental release of a regulated substance, and documenting coordination activities. EPA believes one year is sufficient to arrange for and document coordination activities. The coordination activities in this proposed rule mostly are clarifications of current requirements rather than new provisions.

EPA is also proposing to require three years for the owner or operator of a stationary source to comply with emergency response program requirements of § 68.95 after receiving a written request by an LEPC or equivalent to develop an emergency response program. This timeframe is consistent with the time established in the original rule to comply with risk management program requirements and submit initial RMPs.

Additionally, EPA is proposing to provide additional time for compliance with other proposed provisions (*i.e.*, third-party compliance audits, root cause analyses as part of incident investigations, STAA, emergency response exercises, and information availability provisions). For these provisions, the proposed rule requires affected facilities to comply by four years after the effective date of the rule. Our reasons for the four year phase for these modified requirements are set out below. For the third-party audit, incident investigation root cause analysis, and public meeting provisions, this means that for any RMP reportable accident occurring later than four years after the effective date of the rule, the owner or operator of a source must conduct a third-party audit; investigate an incident, including a root cause

analysis; and hold a public meeting within 30 days of the accident. For any incident that could reasonably have resulted in a catastrophic release (near miss), the owner or operator has four years after the effective date of the rule to comply with the proposed incident investigation root cause analysis requirements. For the STAA, emergency exercise, and information availability provisions, this means that the owner or operator must have completed or updated their PHA to include the STAA; conducted a notification exercise and at least one tabletop or field exercise; and prepared the required information to be provided to the public or, upon request, to the LEPCs.

EPA is proposing to provide this additional time for several reasons. First, EPA believes that for most sources, the incident investigation root cause analysis and emergency response exercise requirements will involve training and program development activities that may reasonably require significant time to complete. Second, 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. Third, for sources subject to the STAA provisions, EPA believes that in many cases these sources will prefer to perform a full PHA update when implementing the STAA requirements. Sources subject to this provision 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 five 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. Sources that performed their most recent PHA update immediately prior to

the rule publication date would have up to four years to perform their next PHA update and adopt the STAA provisions. Most sources could schedule their PHA updates to incorporate the new STAA provisions on their normal PHA update schedule.

Lastly, EPA intends to publish guidance for certain provisions, such as STAA, root cause analysis, and emergency response exercises. 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.

EPA is also proposing to provide one additional year for owners or operators to update RMPs to reflect proposed new or revised data elements in subpart G of the rule. The additional year will allow owners and operators an opportunity to begin to comply with revised rule provisions prior to certifying compliance in the RMP. Additionally, the Agency will need to make significant revisions to its online RMP submission system, RMP*eSubmit, to accommodate the newly required and revised data elements, and sources will not be able to update RMPs 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 RMPs will prevent potential problems with thousands of sources submitting updated RMPs on the same day.

Examples for Compliance and Submission Dates

The following examples assume a hypothetical effective date of June 5, 2017 for a final rule that includes the proposed provisions in Table 7: Proposed Rule Provisions and Corresponding Compliance Dates with corresponding proposed compliance dates.

TABLE 7—PROPOSED RULE PROVISIONS AND CORRESPONDING COMPLIANCE DATES

Rule provision	Proposed compliance date	Hypothetical compliance date	Initiated after an RMP reportable accident?
Third-party audit	Four years after effective date	June 5, 2021	Yes.
Root cause analysis	Four years after effective date	June 5, 2021	Yes (also required after near misses).
STAA	Four years after effective date	June 5, 2021	No.
Emergency response coordination activities.	Within one year of effective date	June 5, 2018	No.
LEPC requires compliance with § 68.95 (emergency response program).	Within three years of receipt of written request.	N/A	No.
Emergency response exercises	Four years after effective date	June 5, 2021	Partially—field exercise within one year.
Information sharing	Four years after effective date	June 5, 2021	Partially—public meeting within 30 days.
Update RMP	Five years after effective date	June 5, 2022	No (but previously existing correction requirements of § 68.195 still apply).

Example 1: Proposed Provisions That Would Apply to a Non-Responding Stationary Source

Source A (see Table 8) is a non-responding stationary source with a regulated process subject to Program 2 requirements. Source A's owner submitted the latest RMP update to EPA on January 20, 2015 and completed its latest compliance audit on August 11, 2017. The source is not in NAICS 322, 324, or 325, and therefore is not subject to the proposed STAA provisions. The source has not had any RMP reportable accidents since the effective date of a final rule.

In this example, the following proposed provisions would apply:

- Annual emergency response coordination activities in accordance with proposed § 68.93;
- Notification exercises (proposed § 68.96(a)); and
- Information availability provisions (proposed §§ 68.205 and 68.210).

The owner or operator must coordinate response needs with local emergency planning and response organizations to ensure resources and capabilities are in place to respond to an accidental release of a regulated substance. Coordination activities must occur annually and be documented.

Source A is a non-responding facility, and the owner or operator would be required to conduct annual notification exercises. The owner or operator would also be required to annually update information for the LEPC and provide the information upon request, and make

certain information easily accessible to the public.

Finally, beginning 5 years after the rule effective date, the owner or operator must update the RMP to include all revised data elements specified in subpart G and § 68.42. In this case, the owner or operator would update their RMP no later than January 20, 2020 (the source's next scheduled five-year update), and again by June 5, 2022 (the required resubmission date for the proposed rule).

Table 9: Summary of proposed provisions that would apply to a non-responding stationary source summarizes the proposed provisions that would apply to Source A.

TABLE 8—EXAMPLE 1, SOURCE A

Source A—Program 2, non-responding stationary source		
Date of last RMP update	Last compliance audit	Last accident
January 20, 2015 ..	August 11, 2017 ...	N/A.

TABLE 9—SUMMARY OF PROPOSED PROVISIONS THAT WOULD APPLY TO A NON-RESPONDING STATIONARY SOURCE

Applicable provisions	Timeframe	Additional information	When to complete*
Emergency response coordination activities.	Within one year of effective date of a final rule.	Occurs annually	Complete coordination activities before June 5, 2018 and document coordination.
Notification exercise	By four-years after effective date.	Occurs annually	Complete first notification exercise by June 5, 2021.
Information availability provisions			
Information to LEPC	By four-years after effective date.	Update information annually. Includes information on regulated substances; accident histories; compliance audits; incident investigations (as applicable) and exercises. Provide to LEPC upon request.	Develop by June 5, 2021 and provide upon request.
Information to the public.	By four-years after effective date.	Occurs annually. Includes information on: Regulated substances including Safety Data Sheets; accident history; emergency response program; exercises; and LEPC contact information.	Complete first calendar year submission by June 5, 2021.
Update RMP	By five years after effective date.	Owner's next 5-year resubmission date occurs prior to effective date for provision, so owner must update RMP twice.	Update RMP on regular schedule (by January 20, 2020) and again to include new information by June 5, 2022.

* Dates are based on a hypothetical scenario including a rule effective date of June 5, 2017.

If the LEPC submits a request to Source A's owner requesting the source comply with the emergency response program requirements of § 68.95, then Source A's owner would have three years from the date of the letter to develop and implement an emergency response plan, obtain equipment, and train personnel in relevant procedures.

Once the owner has developed an emergency response program, the source is a responding facility and must also comply with tabletop and field exercise requirements for responding facilities.

Example 2A: Proposed Provisions That Would Apply to a Responding Stationary Source

Source B (see Table 10) is a responding stationary source with a process subject to Program 3 requirements. Its latest RMP update was submitted June 30, 2020 (*i.e.*, three years after the rule effective date). Its latest compliance audit was performed on April 6, 2020. The source is not in NAICS 322, 324, or 325, and therefore is not subject to the proposed STAA provisions, and the source has not had any RMP reportable accidents since the effective date of a final rule.

TABLE 10—EXAMPLE 2A, SOURCE B

Source B—Program 3, responding stationary source		
Date of last RMP update	Last compliance audit	Last accident
June 30, 2020	April 6, 2020	N/A.

In this example, the following proposed provisions would apply:

- Annual emergency response coordination activities in accordance with proposed § 68.93;
- Emergency response exercises (proposed § 68.96); and
- Information availability provisions (proposed §§ 68.205 and 68.210).

The owner or operator must coordinate response needs with local emergency planning and response organizations to ensure resources and capabilities are in place to respond to an accidental release of a regulated substance. Coordination activities must occur annually and be documented.

Additionally, since Source B is a responding facility, the owner or operator would be required to conduct

annual notification exercises, annual tabletop exercises (with a field exercise substituting for a tabletop exercise once every five years).

The owner or operator would be required to update information annually and provide the information upon request, to the LEPC and make information easily accessible to the public.

Finally, by five years after the rule effective date, the owner or operator must update the RMP to include all revised data elements specified in subpart G and § 68.42. Table 11: Summary of proposed provisions that would apply to Source B summarizes the proposed provisions that would apply to Source B.

TABLE 11—SUMMARY OF PROPOSED PROVISIONS THAT WOULD APPLY TO SOURCE B

Applicable provisions	Timeframe	Additional information	When to complete *
Emergency response coordination activities.	Within one year of effective date of a final rule.	Occurs annually	Complete coordination activities before June 5, 2018.
Emergency response exercises (proposed § 68.96)			
Notification exercise	Four-years after effective date.	Occurs annually	Complete first notification exercise by June 5, 2021.
Field and tabletop exercises	Four-years after effective date.	Tabletop exercise annually, field exercise once every five years. No tabletop exercises in the year of a field exercise.	Complete first tabletop or field exercise by June 5, 2021.
Information availability provisions			
Information to LEPC	Four-years after effective date.	Update information annually. Includes information on regulated substances; accident histories; compliance audits; incident investigations (as applicable) and exercises. Provide to LEPC upon request.	Develop by June 5, 2021 and provide upon request.
Information to the public	Four-years after effective date.	Occurs annually. Includes information on: Regulated substances including Safety Data Sheets; accident history; emergency response program; exercises; and LEPC contact information.	Complete first calendar year submission by June 5, 2021.
Update RMP	By five years after effective date.	.....	Update RMP to include new information by June 5, 2022.

* Dates are based on a hypothetical scenario including a rule effective date of June 5, 2017.

Example 2B: Additional Proposed Provisions That Would Apply to a Responding Stationary Following an RMP Reportable Accident

See Table 12 below.

TABLE 12—EXAMPLE 2B, SOURCE B

Source B—Program 3, responding stationary source		
Date of last RMP update	Last compliance audit	Last accident
June 30, 2020	April 6, 2020	July 5, 2021.

In this example, Source B has an accidental release on July 5, 2021 that meets the reporting requirements of § 68.42. As a result of the accident, Source B's owner would be required to comply with the following additional proposed provisions:

- Accident history provisions of § 68.42 (to report root causes identified during the incident investigation);
- Third-party audit provisions of § 68.80;
- Incident investigation and root cause analysis requirements of § 68.81;
- Field exercise provisions of § 68.96(b)(1)(i) (*i.e.*, requiring a field exercise within one year of any accidental release required to be reported under § 68.42); and

- Public meeting within 30 days of an RMP reportable accident, pursuant to § 68.210(d).

Chronologically, the first provision that would apply is the requirement to host a public meeting. Section 68.210(d) requires the owner or operator to hold a public meeting within 30 days after the accident to inform the public about

the accident, including information required under § 68.42, and other relevant information.

An incident investigation must be initiated promptly, but no later than 48 hours following an incident. The proposed incident investigation provisions would require the owner or operator to complete an incident investigation that includes a root cause analysis and other elements specified in § 68.81(d), and an incident investigation report, within 12 months of the incident, unless the implementing agency approves an extension of time. A summary of the incident investigation report must be provided to the LEPC, upon request.

The proposed third-party audit provisions would require the owner or operator to hire a third-party auditor to perform a third-party compliance audit and submit an audit report to the implementing agency and owner or

operator within 12 months of the accident (if the source's next scheduled compliance audit was required sooner than one year following the incident, the third-party audit would be required to be completed by the scheduled compliance audit date unless the implementing agency approved an extension). The owner or operator must also complete an audit findings response report and submit it to the implementing agency within 90 days of receiving the audit report from the third-party auditor. The owner or operator must also provide the audit findings response report, as well as a schedule to address deficiencies identified in the audit findings response report and documentation of actions taken to address deficiencies, to the owner or operator's audit committee of the Board of Directors, or other comparable committee, if one exists.

The owner or operator would also be required to conduct a field exercise meeting the requirements of § 68.96 within one year of the accidental release, and prepare an evaluation report within 90 days of completing the exercise. By five years after the rule effective date, the owner or operator must update the RMP to include all revised data elements specified in subpart G and § 68.42. Table 13 summarizes the additional provisions that would apply to Source B following an RMP reportable accident (in addition to complying with new requirements triggered by an RMP reportable accident, the owner or operator must annually coordinate response needs with local emergency planning and response organizations, document coordination activities, and comply with the other information disclosure provisions as previously described).

TABLE 13—SUMMARY OF ADDITIONAL PROPOSED PROVISIONS THAT WOULD APPLY TO SOURCE B FOLLOWING AN RMP REPORTABLE ACCIDENT

Applicable provisions following an RMP reportable accident	Timeframe	Additional information	When to complete *
Public meeting	Four-years after effective date.	Within 30 days after an accident	Hold public meeting by August 4, 2021.
Incident investigations	Four-years after effective date.	Initiate within 48 hours, complete investigation and root cause analysis within 12 months.	Complete report by July 5, 2022.
Third-party audit	Four-years after effective date.	Within 12 months of the accident or three years of previous audit, whichever is sooner.	Complete third-party audit by July 5, 2022; complete findings response report within 90 days of completing audit.
Field exercise	Four-years after effective date.	At least once every five years, and within one year of an RMP reportable accident.	Complete field exercise by July 5, 2022; complete an evaluation report within 90 days of the exercise.
Include new accident history information in RMP.	Five-years after effective date.	Correct RMP within 6 months of accident (existing requirement); report complete accident information in next five-year RMP update.	Correct RMP by January 5, 2022; report complete accident information by June 5, 2025.

* Dates are based on a hypothetical scenario including a rule effective date of June 5, 2017.

Example 3: Compliance Date Example For Sources Subject to STAA Requirements

Source C (see Table 14) is a petroleum refinery in NAICS 32411. Its latest RMP update was submitted on March 31, 2018 (i.e., the year after the rule effective date). Its latest PHA revalidation was completed on March 7, 2017 (i.e., approximately three months before the rule effective date).

TABLE 14—EXAMPLE 3, SOURCE C

Source C—Program 3, NAICS 32411	
Date of last RMP update	Last PHA revalidation
March 31, 2018	March 7, 2017.

Because the source is in NAICS 32411, it is subject to the proposed STAA provisions of § 68.67(c)(8). Therefore, by four years after the rule effective date, the owner or operator must complete a PHA revalidation that addresses safer technology and alternative risk management measures, and determine the feasibility of the ISTs and ISDs considered. Under the proposed information availability requirements of § 68.205, the owner or operator must also submit to their LEPC a summary of the ISTs or ISDs implemented or planned, and annually update the summary as part of the calendar year submission described in § 68.205(c).

By June 5, 2018 the owner or operator of Source C must comply with the new

emergency response coordination provisions, and by June 5, 2021, the owner or operator must also comply with other applicable proposed rule provisions including: Third-party audits; incident investigations; emergency response exercises; and information availability (including public meetings).

By five years after the rule effective date, the owner or operator of Source C must update the RMP to include all revised data elements specified in subpart G and § 68.42. Table 15: Compliance date example for sources subject to STAA requirements, summarizes the proposed STAA provisions that would apply to Source C.

TABLE 15—COMPLIANCE DATE EXAMPLE FOR SOURCES SUBJECT TO STAA REQUIREMENTS

Applicable provisions	Timeframe	Additional information	When to complete*
STAA	Four-years after effective date.	Occurs every five years as part of PHA revalidation.	By June 5, 2021.
Information availability to LEPC, upon request.	Four-years after effective date.	In addition to other information availability provisions, include information on IST or ISD to be implemented. Update every five years as part of information to provide to LEPC upon request.	Develop in first calendar year after completion of STAA or June 5, 2021, whichever is later and provide to LEPC upon request.
Update RMP	Five years after rule effective date.	.....	By June 5, 2022.

*Dates are based on a hypothetical scenario including a rule effective date of June 5, 2017.

IX. Statutory and Executive Order Reviews

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 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 and is summarized here (Docket ID Number EPA-HQ-OEM-2015-0725).

1. Why EPA Is Considering This Action

In response to catastrophic chemical facility incidents in the United States, President Obama issued Executive Order 13650, “Improving Chemical Facility Safety and Security,” on August 1, 2013. The Executive Order establishes the Chemical Facility Safety and Security Working Group (Working Group), co-chaired by the Secretary of Homeland Security, the Administrator of EPA, and the Secretary of Labor or their designated representatives at the Assistant Secretary level or higher, and comprised of senior representatives of other Federal departments, agencies, and offices. The Executive Order requires the Working Group to carry out a number of tasks whose overall goal is to prevent chemical accidents, such as the explosion that occurred at the West Fertilizer facility in West, Texas, on April 17, 2013, which killed 15 people, most of whom were first responders, caused multiple injuries, and resulted in extensive building damage to the town.

Section 6(a)(i) of Executive Order 13650 requires the Working Group to develop options for improved chemical facility safety and security that identify “improvements to existing risk management practices through agency programs, private sector initiatives,

Government guidance, outreach, standards, and regulations.” Section 6(c) of Executive Order 13650 requires the Administrator of EPA to review the Risk Management Program. As part of this effort to solicit comments and information from the public regarding potential changes to EPA’s RMP regulations (40 CFR part 68), on July 31, 2014, EPA published an RFI (79 FR 44604).

EPA believes that 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 PSM based on lessons learned. These revisions are a result of a review of the existing Risk Management Program and information gathered from the RFI and Executive Order listening sessions, and are proposed under the statutory authority provided by CAA section 112(r) as amended (42 U.S.C. 7412(r)).

2. Description of Alternatives to the Proposed Rule

The RIA analyzed the proposed new requirements and revisions to existing requirements as well as several alternatives for each.

Third-Party Audits—(Proposed Revisions Apply to Existing §§ 68.58 and 68.79 and New §§ 68.59 and 68.80)

The existing rule requires Program 2 and Program 3 processes to conduct a compliance audit at least once every 3 years. The proposed rule would require facilities to contract with an independent third-party to conduct the next scheduled compliance audit following an RMP reportable accident or after an implementing agency determines that certain circumstances exist that suggest a heightened risk for an accident. The third-party would have to be someone with whom the facility does not have an existing or recent relationship and who meets specific

qualification criteria. The low cost alternative would apply only for Program 2 and Program 3 processes after an RMP reportable accident or at the request of the implementing agency. The medium cost alternative would apply every three years for all compliance audits conducted for all Program 3 processes. The high cost alternative would apply every three years for all compliance audits conducted for Program 2 and Program 3 processes.

Root Cause Analysis—(Proposed Revisions Apply to §§ 68.60 and 68.81)

The proposed rule would require facilities to conduct a root cause analysis as part of an incident investigation following an RMP reportable accident or an incident that could reasonably have resulted in an RMP reportable accident (*i.e.*, “near miss”). A root cause analysis is a formal process to identify underlying reasons for failures that lead to accidental releases. These analyses usually require someone trained in the technique. The low cost alternative would apply the provision only to RMP reportable accidents or near misses in Program 3 processes. The medium/high cost alternative would apply to RMP reportable accidents or near misses involving Program 2 and Program 3 processes.

Safer Technology and Alternatives Analysis (STAA)—(Proposed Revisions Apply to § 68.67)

Under the proposed rule, facilities in NAICS codes 322 (paper manufacturing), 324 (petroleum and coal products manufacturing), and 325 (chemical manufacturing) with Program 3 processes would be required to conduct a STAA for each process as part of their PHA, which occurs every 5 years. The STAA includes two parts: The initial analysis to identify alternatives, and a feasibility study to determine the costs and assess the reasonableness of implementing

technology alternatives. The proposed rule is the low cost alternative, which would apply to all facilities with Program 3 processes in NAICS codes 322, 324, and 325. The medium cost alternative would apply the requirement to all Program 3 processes. The high cost alternative would apply the requirement to all Program 3 processes and require facilities to implement feasible IST/ISD.

Coordination Activities—(Proposed Revisions Apply to §§ 68.90, New 68.93, and 68.95)

Under the proposed rule, all facilities with Program 2 or Program 3 processes would be required to coordinate with local response agencies annually to determine response needs and ensure that response resources and capabilities are in place to respond to an accidental release of a regulated substance. The owner or operator would also be required to document coordination activities. The proposed rule also includes a provision enabling the LEPC or local emergency response official to request, in writing, that the RMP-facility owner or operator comply with the emergency response program requirements of § 68.95. Section 68.95 requires the owner or operator to develop an emergency response program that includes an emergency response plan, procedures for use, inspection and maintenance of response equipment, training for responding employees, and procedures to review and update the program.

Alternatives to this provision are similar to the proposed requirements. One alternative that imposes the same costs as the proposed option would eliminate the option for local officials to request that a facility owner or operator comply with the requirements of § 68.95. A second alternative is a high cost alternative and would require all facilities with Program 2 or Program 3 processes to comply with § 68.95, regardless of local response capability. This would be analogous to the requirements under the Oil Pollution Prevention regulation (40 CFR part 112) where all facilities subject to the FRP provisions at § 112.20 are required to prepare and implement an emergency response plan for oil discharges into

navigable waters or adjoining shorelines.

Exercises—(Proposed Revisions Apply to New § 68.96)

Notification Exercises. All facilities with Program 2 or Program 3 processes would be required to conduct a notification exercise annually to ensure that the contact list to be used in an emergency is complete, accurate, and up-to-date.

Tabletop and Field Exercises. The proposed rule would require responding facilities to conduct annual exercises of their emergency response plans and invite local emergency response officials to participate. Under the low cost alternative, facilities would conduct tabletop exercises annually. Under the proposed rule, which is the medium cost alternative, facilities would conduct a full field exercise at least once every five years and tabletop exercises annually in the interim years. Facilities with an RMP reportable accident would also have to conduct a full field exercise within a year of an RMP reportable accident, but this may not impose any additional burden under the medium alternative as it would count as the required field exercise for the next 5-year period. Under the high cost alternative, facilities would conduct full field exercises annually.

Information Availability—(Proposed Revisions Apply to New § 68.205 and Existing § 68.210)

The proposed rule would require all facilities to disclose certain chemical hazard information to the public. The facility or its parent company, if applicable, would have to make the information available in an easily accessible manner, which might be presenting information on a company Web site, posting the information at public libraries, publishing it in local papers, or other means appropriate for particular communities and facilities. The information to be disclosed includes names of regulated substances at the facility; SDS; accident history information; emergency response program information; and LEPC or local response agency contact information.

In addition, facility owners or operators would be required to provide

information upon request to the LEPC or other local response agencies on all of the following that apply to the facility: Names and quantities of regulated substances; five-year RMP reportable accident history; summaries of compliance audit reports; summaries of incident investigation reports; summaries of implementation of IST; and information on emergency response exercises, including schedules for upcoming exercises. Facilities owners or operators would be required to update this information annually. Although EPA did not analyze alternatives for this provision, the different applicability for the STAA provision alternatives increases the cost of the medium/high alternative for disclosure to the LEPC because more facilities would have to report on that analysis.

Public Meeting—(Proposed Revisions Apply to § 68.210)

The proposed rule would require facilities to hold a public meeting for the local community within 30 days of an RMP reportable accident. The medium cost alternative would require Program 2 and Program 3 facilities to hold a public meeting at least once every 5 years and within 30 days of an RMP reportable accident. The high cost alternative would require all facilities (*i.e.*, including Program 1 facilities) to hold a public meeting at least once every 5 years and within 30 days of an RMP reportable accident.

3. Summary of Costs

Approximately 12,500 facilities have filed current RMPs with EPA and are potentially affected by the proposed rule changes. 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 that use RMP-regulated substances.

Table 16 presents the number of facilities according to the latest RMP reporting as of February 2015 by industrial sector and chemical use.

TABLE 16—NUMBER OF AFFECTED FACILITIES BY SECTOR

Sector	NAICS Codes	Total facilities	Chemical uses
Administration of environmental quality programs (<i>i.e.</i> , governments).	924	1,923	Use chlorine and other chemicals for treatment.
Agricultural chemical distributors/wholesalers	111, 112, 115, 42491	3,667	Store ammonia for sale; some in NAICS 111 and 115 use ammonia as a refrigerant.
Chemical manufacturing	325	1,466	Manufacture, process, store.

TABLE 16—NUMBER OF AFFECTED FACILITIES BY SECTOR—Continued

Sector	NAICS Codes	Total facilities	Chemical uses
Chemical wholesalers	4246	333	Store for sale.
Food and beverage manufacturing	311, 312	1,476	Use (mostly ammonia as a refrigerant).
Oil and gas extraction	211	741	Intermediate processing (mostly regulated flammable substances and flammable mixtures).
Other	44, 45, 48, 54, 56, 61, 72	248	Use chemicals for wastewater treatment, refrigeration, store chemicals for sale.
Other manufacturing	313, 326, 327, 33	384	Use various chemicals in manufacturing process, waste treatment.
Other wholesale	423, 424	302	Use (mostly ammonia as a refrigerant).
Paper manufacturing	322	70	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	276	Store for sale (mostly regulated flammable substances and flammable mixtures).
Utilities	221 (except 22131, 22132)	343	Use chlorine (mostly for water treatment).
Warehousing and storage	493	1,056	Use mostly ammonia as a refrigerant.
Water/wastewater Treatment Systems	22131, 22132	102	Use chlorine and other chemicals.
Total		12,542	

Table 17 presents a summary of the annualized costs estimated in the

regulatory impact analysis. In total, EPA estimates annualized costs of \$158.3

million at a 3% discount rate and \$161.0 million at a 7% discount rate.

TABLE 17—SUMMARY OF ANNUALIZED COSTS
[Millions, 2014 dollars]

Provision	3 (percent)	7 (percent)
Third-party Audits	\$5.0	\$5.0
Incident Investigation/Root Cause	0.8	0.8
STAA	34.8	34.8
Coordination	6.3	6.3
New Responders*	33.0	35.6
Notification Exercises	1.4	1.4
Facility Exercises	60.7	60.7
Information Sharing (LEPC)	11.7	11.7
Information Sharing (Public)	4.0	4.0
Public Meeting	0.4	0.4
Rule Familiarization	0.3	0.3
Total Cost*	158.3	161.0

* Reflects costs for some facilities to convert from “non-responding” to “responding” as a result of improved coordination with local emergency response officials.

+ Totals may not sum due to rounding.

The largest average annual cost of the proposed rule is the exercise cost for current responders (\$60.7 million), followed by new responders (\$35.6 million), STAA (\$34.8 million), and information sharing (LEPC) (\$11.7 million). The remaining provisions impose average annual costs under \$10 million, including coordination (\$6.3 million), third-party audits (\$5.0 million), information sharing (public) (\$4.0 million), notification exercises (\$1.4 million), incident investigation/ root cause analysis (\$0.8 million), public meetings (\$0.4 million), and rule familiarization (\$0.3 million).

The proposed rule includes three prevention program provisions—third

party audits, root cause analysis, and STAA—involving information collection and analysis activities that can lead to a wide range of outcomes, and therefore costs, if and when the owner acts upon the findings and/or recommendations generated by the audit, investigation, or analysis. Although resolving audit and investigation findings is required under the existing rule provisions, and the proposed rule does not require implementation of feasible IST alternatives, EPA believes it is possible that there may be costs associated with resolving findings from the proposed third-party audit and root cause analysis provisions that go beyond the costs of

the existing provisions, and that some owners or operators may have additional costs due to voluntary implementation of IST. Due to the wide range of outcomes from these proposed provisions and the significant uncertainties associated with their costs, EPA seeks further information on their potential costs, and whether these costs should accrue to this proposal. What types of costs result from independent audits (other than the cost of the audit) that are different from self-audit costs? What types of costs result from root cause investigations as compared to non-root-cause investigations? For the STAA provisions, what information exists to project what changes facilities

are likely to voluntarily undertake? EPA particularly requests cost data or studies for implementation of IST changes from any commenters who may prefer the high option for this provision, which would require implementation of feasible IST alternatives.

Summary of Potential Benefits

EPA anticipates that promulgation and implementation of this rule would result in a reduction of the frequency

and magnitude of damages from releases. Accidents and releases from RMP facilities occur every year, resulting in fires and explosions, property damage, acute and chronic exposures of workers and nearby residents to hazardous materials, and resultant damages to health. Although we are unable to quantify what specific damage reductions may occur as a result of these proposed revisions, we are able

to present data on the total damages that currently occur at RMP facilities each year. The data presented are based on a 10-year baseline period, summarizing RMP accident impacts and, when possible, monetizing them. EPA expects that some portion of future damages would be prevented through implementation of a final rule. Table 18 presents a summary of the quantified damages identified in the analysis.

TABLE 18—SUMMARY OF QUANTIFIED DAMAGES

	Unit value	10-Year total	Average/year	Average/accident
On-site				
Fatalities	\$8,583,113	\$497,820,554	\$49,782,055	\$328,161
Injuries	50,000	105,150,000	10,515,000	69,314
Property Damage .....	.....	2,054,895,236	205,489,524	1,354,578
On-site Total .....	.....	2,657,865,790	265,786,579	1,752,053
Offsite				
Fatalities	\$8,583,113	\$8,583,113	\$858,311	\$5,658
Hospitalizations	36,000	6,804,000	680,400	4,485
Medical Treatment	1,000	14,807,000	1,480,700	9,761
Evacuations	181	6,992,327	699,233	4,609
Sheltering in Place	91	40,920,849	4,092,085	26,975
Property Damage .....	.....	11,352,105	1,135,211	7,483
Offsite Total .....	.....	89,459,394	8,945,939	58,971
Total .....	.....	2,747,325,184	274,732,518	1,811,024

EPA monetized both on-site and offsite damages. EPA estimated total average annual on-site damages of \$265.8 million. The largest monetized average annual on-site damage was avoided on-site property damage, which resulted in an average annual damage of approximately \$205.5 million. The next largest impact was avoided on-site fatalities (\$49.8 million) and injuries (\$10.5 million).

EPA estimated total average annual offsite damages of \$8.9 million. The largest monetized average annual offsite damage was from sheltering in place (\$4.1 million), followed by medical treatment (\$1.5 million), property damage (\$1.1 million), fatalities (\$0.9 million), evacuations (\$0.7 million), and hospitalizations (\$0.7 million).

In total, EPA estimated monetized potential damages of \$275 million per year. However, the monetized impacts omit many important categories of accident impacts including lost productivity, the costs of emergency response, transaction costs, property value impacts in the surrounding community (that overlap with other benefit categories), and environmental impacts. Also not reflected in the 10-year baseline costs are the impacts of non-RMP accidents at RMP facilities and any potential impacts of rare high consequence catastrophes. A final omission is related to the information provision. Reducing the probability of chemical accidents and the severity of their impacts, and improving information disclosure by chemical

facilities, as the proposed provisions intend, would provide benefits to potentially affected members of society.

Table 19 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 19 also highlights and explains the information disclosure benefit category and identifies two specific benefits associated with it: Improved efficiency of property markets and allocation of emergency resources.

TABLE 19—SUMMARY OF SOCIAL BENEFITS OF PROPOSED RULE PROVISIONS

Broad benefit category	Explanation	Specific benefit categories
Accident Prevention	Prevention of future RMP facility accidents	<ul style="list-style-type: none"> • Reduced Fatalities. • Reduced Injuries. • Reduced Property Damage. • Fewer People Sheltered in Place. • Fewer Evacuations. • Avoided Lost Productivity. • Avoided Emergency Response Costs. • Avoided Transaction Costs. • Avoided Property Value Impacts.* • Avoided Environmental Impacts. • Improved efficiency of property markets. • Improved resource allocation.
Accident Mitigation	Mitigation of future RMP facility accidents	
Non-RMP accident prevention and mitigation	Prevention and mitigation of future non-RMP accidents at RMP facilities.	
Avoided Catastrophes	Prevention of rare but extremely high consequence events.	
Information Disclosure	Provision of information to the public and LEPCs.	

* These impacts partially overlap with several other categories such as reduced health and environmental impacts.

B. Paperwork Reduction Act (PRA)

The information collection activities in this proposed rule have been 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 2537.01. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here.

This ICR would amend a previously approved ICR (1656.15), OMB Control No. 2050–0144. That ICR covers the risk management program rule, originally promulgated on June 20, 1996; the current rule, including previous amendments, is codified as 40 CFR part 68. This ICR addresses the following proposed information requirements that are part of a proposed revision to the rule:

- (1) Make certain information related to the risk management program available to the local community.
- (2) Provide information, upon request, to the LEPC and local emergency response officials with summaries of certain activities under the risk management program.
- (3) Hold a public meeting within 30-days of an accident subject to reporting under § 68.42.
- (4) Hire a third-party to conduct the compliance audit after a reportable release.
- (5) Conduct and document a root cause analysis after a reportable release.
- (6) Conduct and document an incident investigation, including root cause analysis, after a near miss.
- (7) Conduct and document a safer technology and alternatives analysis.
- (8) Meet and coordinate with local responders to ensure adequate response capability exists.
- (9) Conduct a notification drill to verify information.
- (10) Conduct and document emergency response exercises.
- (11) Come into compliance with requirements for developing an

emergency response program, including developing an emergency response plan, conducting emergency response exercises, documenting training, and providing information to the LEPC.

EPA believes that the RMP regulations have been effective in preventing and mitigating chemical accidents in the United States. However, EPA is proposing revisions to further protect human health and the environment from chemical hazards through advancement of PSM based on lessons learned—resulting in better coordination between facilities, LEPC’s, and the public. 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)).

Some of the elements mandated in the regulation for the RMP may require the submittal of data viewed as proprietary, trade secret, or confidential. As described above, EPA has adopted procedures for sources to claim certain information as confidential business information. EPA encourages facilities that have CBI claims to submit substantiation with the RMP.

Respondents/affected entities: Manufacturers, utilities, warehouses, wholesalers, food processors, ammonia retailers, and gas processors.

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: 12,542.

Frequency of response: On occasion.

Total estimated burden: 623,970 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: \$55,278,216 (per year), includes \$4,303,435 annualized capital or operation & maintenance 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 your 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. You may also send your ICR-related comments to OMB’s Office of Information and Regulatory Affairs via email to oria_submissions@omb.eop.gov, Attention: Desk Officer for the EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after receipt, OMB must receive comments no later than April 13, 2016. The EPA will respond to any ICR-related comments in the final rule.

C. Regulatory Flexibility Act (RFA)

Pursuant to section 603 of the RFA, the EPA prepared an initial regulatory flexibility analysis (IRFA) that examines the impact of the proposed rule on small entities along with regulatory alternatives that could minimize that impact. The complete IRFA is available for review in the docket and is summarized here.

1. Why EPA Is Considering This Action

The purpose of this action is to improve safety at facilities that use and distribute hazardous chemicals. In response to catastrophic chemical facility incidents in the United States, including the explosion that occurred at the West Fertilizer facility in West, Texas, on April 17, 2013 that killed 15 people, President Obama issued Executive Order 13650, “Improving Chemical Facility Safety and Security,” on August 1, 2013. Section 6(a)(i) of Executive Order 13650 requires that various Federal agencies develop options for improved chemical facility safety and security, including modernizing regulations. As a result, EPA is proposing revisions to the Risk Management Program (40 CFR part 68). For more information on Executive Order 13650, see section II. Background of this document.

2. Objectives of, and Legal Basis for, the Proposed Rule

EPA believes that 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 the advancement of process safety based on lessons learned. These revisions are a result of a review of the existing Risk Management Program and information gathered from the RFI and Executive Order listening sessions, and are

proposed under the statutory authority provided by CAA section 112(r) as amended (42 U.S.C. 7412(r)).

3. Estimate of the Number of Small Entities to Which the Proposed Rule Will Apply

The RMP rule affects a broad range of sectors (296 separate NAICS codes are listed in RMP filings; 240 of these are associated with small entities). The RMP data include facility and parent company name as well as the number of full time equivalents (FTE) for the facility and the NAICS codes. To develop an estimate of the number of small entities, the analysis required a series of reviews of the data to identify the large entities and the small entities that were part of small firms owning multiple facilities. The data were reviewed to identify parent companies that were clear from the facility name, but not included in the parent company field. That made it possible to determine the total FTE for facilities belonging to the same parent company and compare that number to the Small Business Administration (SBA) standard (when in FTEs). If the total FTE exceeded the standard, all the facilities were classified as large. Where the facilities listed different NAICS codes, the analysis applied either the code used for a majority of the facilities or, if no single code dominated, the code with the highest threshold. For example, if a firm had facilities in sectors where the standards were 500 and 1,000 FTE, the

1,000 FTE standards was used to determine if the firm was large.

For remaining facilities, if there were multiple facilities belonging to a single firm and the total FTE approached the threshold or if the name included “USA” or “US holdings,” which implied an international company, Internet searches were conducted to identify whether the facilities belonged to a firm with other facilities or employees.

The RFA defines small governments as governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.²⁰⁷ Most governmental RMP facilities are water and wastewater treatment systems and listed a city or county as the owning entity. A check of budgets that were available for some of the smallest cities indicated that (1) the systems are sub-agencies of the city/county and (2) obtain some revenues from the general fund although most of their revenues are derived from user fees. To determine which facilities belong to small governments, the populations for each of cities or counties were determined by checking the 2014 estimates from the Census. For special water and irrigation districts, their Internet sites were checked for information on the population served. Table 20 below presents the number of small and large facilities by program level.

TABLE 20—NUMBER OF FACILITIES OWNED BY SMALL AND LARGE ENTITIES BY PROGRAM LEVEL

RMP program	Small private	Large private	Small government	Large government	Total
Program 3	3,545	6,097	451	522	10,615
Program 2	174	176	521	414	1,285
Program 1	213	414	6	9	642
Total	3,932	6,687	978	945	12,542

4. Projected Reporting, Recordkeeping and Other Compliance Requirements of the Proposed Rule

Under the proposed rule, all facilities would be required to make certain information available to the public and, upon request, to the LEPC or local emergency response officials. Program 1 facilities would not likely have to spend more than an hour a year on this disclosure because the information disclosed to the public is information every facility should have readily available and because the additional information that would be provided,

upon request, to the LEPC relates to provisions that do not apply to Program 1 facilities. Therefore, the IRFA has not considered Program 1 small facilities in the analysis of impacts.

Program 2 and Program 3 facilities would incur the same costs for the other proposed provisions except the STAA. Each facility would be required to update information to be disclosed annually, coordinate with the local responders, and conduct a notification drill annually. If the facility is a responder, it would have to hold an annual exercise, including at least one

full field exercise every 5 years. Program 3 facilities in NAICS codes 322, 324, and 325 would have to conduct an STAA as part their PHA every 5 years.

If a facility has an accident, it would incur costs to hold a public meeting within 30 days of an RMP reportable accident. It would also incur additional costs for obtaining a third-party to conduct their next scheduled compliance audit and to conduct a root cause analysis as part of the incident investigation. Facilities would also be required to conduct root cause investigations of near misses. Finally, if

²⁰⁷ 5 U.S.C. 602.

a facility has to become a responder, it would incur costs to develop an emergency response plan, train personnel to respond, purchase and maintain equipment, and conduct exercises.

Table 21 presents three sets of costs: low year, annualized, and high year (excludes costs incurred after an accident or a near miss). Low-year costs represent costs for years in which routine annual costs apply. These include costs for coordinating with local

responders, conducting notification exercises (applies to all Program 2 and Program 3 facilities), conducting tabletop exercises (applies only to responders), and updating disclosure information to LEPC and the public. High-year costs represent a year in which every applicable provision would occur, except costs incurred after an accident or “near miss.” This includes the routine annual costs and periodic costs that apply either every 3 or 5 years (i.e., field exercise in lieu of a tabletop

exercise, public meeting, all public disclosure requirements, and STAA). Because the STAA provisions would only apply to a subset of facilities (i.e., those in NAICS 322, 324, and 325), these facilities are broken out separately in the last two rows of the table. Complex facilities are those categorized as NAICS 324 or 325 and simple facilities are all others. Annualized costs average the low costs incurred for four years with the high costs incurred every fifth year.

TABLE 21—LOW, ANNUALIZED, AND HIGH YEAR COMBINED COSTS FOR SMALL ENTITIES BY GROUP

	Low year cost		Annualized		High year cost	
	Simple	Complex	Simple	Complex	Simple	Complex
Program 2 and Program 3 facilities (excludes Program 3 facilities subject to STAA)						
Non Responder	\$808	\$1,223	\$808	\$1,223	\$808	\$1,223
Responder 0–19 FTE	6,743	9,289	8,158	10,898	9,572	12,507
Responder 20+ FTE	7,870	10,761	11,885	15,261	15,900	19,761
Program 3 facilities subject to STAA						
Non Responder	n/a	1,223	n/a	17,295	n/a	33,366
Responder <20 FTE	n/a	9,289	n/a	26,970	n/a	44,650

5. Related Federal Rules

The Risk Management Program is one of several programs regarding chemical facility safety and security. Executive Order 13650 directed Federal agencies to identify ways to modernize policies, regulations, and standards to enhance safety and security in chemical facilities. The Executive Order established a Chemical Facility Safety and Security Working Group to oversee this effort, which is tri-chaired by the EPA, DOL, and DHS. Members of the Working Group (at the management and staff level) regularly share information in order to coordinate activities on any work involving revisions in regulations, such as revisions to OSHA’s PSM standard and DHS’ CFATS regulations. These efforts also serve to avoid unnecessary duplication, overlap and conflicts with the Risk Management Program requirements.

OSHA’s 29 CFR 1910.119 PSM standard. Mandated by the CAAA of 1990 and issued in 1992, the PSM standard sets requirements for the management of highly hazardous substances to prevent and mitigate hazards associated with catastrophic releases of flammable, explosive, reactive, and toxic chemicals that may endanger workers. The PSM standard covers the manufacturing of explosives and processes involving threshold quantities of flammable liquids and flammable gasses, as well as 137 other highly hazardous chemicals.

The OSHA PSM standard, similar to the EPA RMP rule, aims to prevent or minimize the consequences of accidental chemical releases through implementation of management program elements that integrate technologies, procedures, and management practices. The EPA RMP regulation closely tracks the accident prevention measures contained in the OSHA PSM standard because Section 112(r)(7)(D) of the CAA requires EPA to coordinate the RMP regulation with “any requirements established for comparable purposes” by OSHA. Consequently, the OSHA PSM standard and EPA RMP regulation are closely aligned in content, policy interpretations, Agency guidance, and enforcement.

Since the inception of these regulations, EPA and OSHA have coordinated closely on their implementation in order to minimize regulatory burden and avoid conflicting requirements for regulated facilities. For example, owners and operators of RMP covered processes also subject to the OSHA PSM standard will generally have met their RMP accident prevention program obligations if they have properly implemented their PSM program.

Occupational Safety and Health Act General Duty Clause. Section 5(a)(1) of the Occupational Safety and Health (OSH) Act requires employers to provide its employees with a workplace

free from recognized hazards that are causing, or are likely to, cause death or serious physical harm.

EPA’s EPCRA regulations (40 CFR 350–372). Following the 1984 release of approximately 40 tons of MIC into the air in Bhopal, India, that killed over 3,700 people and the 1985 leak of 500 gallons of aldicarb oxime from a Union Carbide facility in Institute, West Virginia, Congress passed EPCRA in October 1986. The purpose of EPCRA is twofold: (1) To encourage and support emergency planning efforts at the state and local levels, and (2) to provide the public and local governments with information concerning potential chemical hazards present in their communities.

EPCRA created state and local infrastructure designed to (1) prepare for and mitigate the effects of a chemical incident and (2) ensure that information on chemical risks in the community is provided to the first responders and the public. These state and local entities are the SERCs, TERCs, LEPCs, and TEPCs. Representatives on the LEPCs include local officials and planners, facility owners and operators, first responders, health and hospital personnel, environmental groups, and citizen/members of the public.

A central requirement of LEPCs and TEPCs is to develop a local emergency response plan. These plans are required to:

- Identify facilities and transportation routes of extremely hazardous substances and assess the risk based on chemical information from facilities;
- Describe on-site and offsite emergency response procedures;
- Designate a community coordinator and facility emergency coordinator(s) to implement the plan;
- Describe emergency notification procedures;
- Describe how to determine the probable affected area and population by releases (including identification of critical community receptors and assets);
- Describe local emergency equipment and facilities and the persons responsible for them;
- Describe evacuation plans;
- Identify the training program for emergency responders (including schedules); and
- Identify the methods and schedules for exercising emergency response plans.

Under the community right-to-know section of EPCRA, certain facilities that manufacture, process, or store any hazardous chemicals are required to submit an SDS or list of hazardous chemicals, grouped into hazard categories, to SERCs, TERCs, LEPCs, TEPCs, and local fire departments. Under the Hazard Communication Standard, OSHA requires SDSs that describe the properties, hazards, and health effects of these chemicals as well as emergency response procedures and appropriate personal protection equipment. Facilities must also annually report their inventories of all on-site chemicals for which SDSs are required that are stored above reporting threshold quantities to SERCs, LEPCs, and local fire departments. LEPCs must use information about chemical inventories at facilities and SDSs in developing their local emergency plans; this information must also be available to the public.

Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities (40 CFR 264 and 265). These regulations establish minimum national standards which define the acceptable management of hazardous waste including requirements for arrangements that owners and

operators of hazardous waste facilities make with local authorities. In sections 264.37 and 265.37, hazardous waste generators are required to attempt to make arrangements for emergency response activities with local authorities, and document the refusal of local or State authorities to complete such arrangements in the operating record.

CAA section 112(r)(1) general duty clause. The statute requires facility owners and operators to identify hazards; design, maintain and safely operate a facility; and prevent and minimize releases of any regulated substances under § 112(r)(3) (40 CFR part 130) and “any other extremely hazardous substance.”²⁰⁸

DHS’s 6 CFR part 27 CFATS rule. The CFATS program, established in 2007, regulates chemical facilities that present a high level of security risk to ensure they have security measures in place to reduce the risks associated with their possession of chemicals of interest (COI). There are 325 COI and 137 of the 140 RMP regulated substances are included on the list of COI.

The CFATS program requires the development, submission, and implementation of Site Security Plans (SSPs) (or Alternative Security Programs in lieu of SSPs), which document the security measures high-risk chemical facilities use to satisfy the applicable risk-based performance standards (RBPS) under CFATS. These plans are not “one-size-fits-all,” but in-depth, highly customized, and dependent on each facility’s unique circumstances.

Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) requirements for explosives. ATF is responsible for enforcing Federal explosives laws that govern commerce in explosives in the United States, including licensing, storage, recordkeeping, and conduct of business. ATF conducts inspections of Federal explosives licensees who manufacture, import, sell, or store explosives in the United States to ensure that explosives are managed in accordance with Federal law.

6. Description of Alternatives to the Proposed Rule

The RIA analyzed the proposed new requirements and revisions to existing requirements as well as several alternatives for each. In most cases, EPA chose regulatory alternatives that had reduced impacts on small businesses relative to other alternatives that EPA considered. In this section, we discuss each regulatory provision, explain whether and how the proposed provision minimizes impacts on small businesses, and discuss additional recommendations resulting from the SBAR Panel that could further mitigate small business impacts. EPA has requested comment on these recommendations.

Third-Party Audits—(Proposed Revisions Apply to Existing §§ 68.58 and 68.79 and New §§ 68.59 and 68.80)

EPA evaluated three options for this provision and selected the lowest cost alternative, which would apply the requirement only to sources with Program 2 and/or Program 3 processes that have had an RMP reportable accident. The other alternatives would have required that all compliance audits be conducted by third parties for sources with either Program 3 processes or Program 2 and Program 3 processes. Limiting the applicability of this proposed provision to sources that have had RMP reportable accidents minimizes its impact to the overall universe of RMP facilities, and particularly to small businesses. As indicated in Exhibit 5–25 in the RIA, the estimated cost of the high option (\$96.2 million annualized) is nearly 20 times higher than the estimated costs of the proposed option (\$5.0 million annualized). Furthermore, a majority of the costs for the proposed option would likely be borne by large businesses, as historically, most RMP accidents have occurred at facilities that do not meet SBA small business criteria. Table 22 shows the percentage of accidents from 2004–2013 that occurred at small and large facilities.

TABLE 22—PERCENTAGE OF ACCIDENTS AT SMALL AND LARGE RMP FACILITIES, 2004–2013

Sector	Program 1		Program 2		Program 3		Total
	Small	Large	Small	Large	Small	Large	
NAICS 325—Chemical Manufacturing	0	6	1	5	53	465	530
NAICS 311, 312—Food/Beverage Manufacturers	0	0	2	0	58	210	270
NAICS 322—Paper Manufacturing	0	0	0	0	9	37	46

²⁰⁸ Although the term “any other extremely hazardous substance” is not defined, the legislative history of the 1990 CAA amendments indicates that the term would include any agent “which may or

may not be listed or otherwise identified by any Government agency which may as the result of short-term exposures associated with releases to the air cause death, injury or property damage due to

its toxicity, reactivity, flammability, volatility, or corrosivity.” See: <http://www2.epa.gov/sites/production/files/2013-10/documents/gdcregionalguidance.pdf>.

TABLE 22—PERCENTAGE OF ACCIDENTS AT SMALL AND LARGE RMP FACILITIES, 2004–2013—Continued

Sector	Program 1		Program 2		Program 3		Total
	Small	Large	Small	Large	Small	Large	
NAICS 331, 332, 333, 334, 336, 339—Other Manufacturing	0	0	4	0	12	27	43
NAICS 11, 12, 15, 42491—Agricultural Chemical Distributors	0	0	0	0	91	65	156
NAICS 4246, 4247—Chemical/petroleum wholesale	0	2	0	0	7	29	38
NAICS 4244, 4245—Other wholesale	0	0	0	0	7	13	20
NAICS 493—Warehouse	0	1	0	0	18	53	72
NAICS 324—Petroleum and Coal Products Manufacturing	2	6	0	0	15	146	169
NAICS 22131, 22132—Water/POTW	0	0	14	20	17	24	75
NAICS 211—Oil/Gas exploration	4	4	1	0	10	34	53
Other	3	7	7	4	7	17	45
Total	9	26	29	29	304	1,120	1,517

While the proposed third-party audit provision should have fairly low impact on small businesses, the SBAR Panel made additional recommendations to further minimize the impacts of this provision on small businesses. The Panel recommended that EPA consider proposing streamlined independence requirements for small businesses (*i.e.* based on size of the facility). The Panel also recommended that EPA limit the independence criteria to individuals participating in the audit rather than the entire company. The Panel further recommended that EPA seek comments on:

- Eliminating the independence requirement, in its entirety, and retaining existing requirement for compliance audits;
- Limiting applicability of the third-party audit provision by only requiring third-party audits, for Program 3 facilities, triggered by major accidents that have offsite impacts and how to define or characterize “major accidents with offsite impacts”;
- Deleting the current PE requirement and considering other independent accreditation for third-party auditors which also carry ethical requirements, such as CSP, CIH, CFPS, CHMM, CPEA, or CPSA; and
- The impacts a third-party auditor may have on a facility’s security and the measures that should be included in the rule provision to protect facilities from terrorism or release of CBI from a third-party auditor.

EPA incorporated preamble language to address these Panel recommendations in section IV.B of this document.

Incident Investigation/Root Cause Analysis—(Proposed Revisions Apply to §§ 68.60 and 68.81)

In this case, EPA considered two potential regulatory options, and proposed the higher cost option, which would apply the requirement for an incident root cause analysis to all RMP-

reportable accidents and near misses involving Program 2 and Program 3 processes. The lower cost option would apply the requirement to accidents and near misses at only Program 3 processes. Although the Agency chose the higher cost option, this provision is estimated to be one of the least costly provisions of the proposed rule. In fact, the costs for both options considered were nearly indistinguishable—as indicated in Exhibit 5–25 in the RIA, both the low and proposed options are estimated to cost approximately \$0.8 million annually. Therefore, EPA believes that the additional safety benefit of requiring owners and operators of Program 2 processes to also conduct root cause analyses after incidents and near misses was warranted.

The SBAR Panel also made recommendations to further minimize the impacts of this provision on small businesses. The Panel recommended that EPA clarify our intent that incident investigations are not intended to cover minor accidents or minor near misses that could not reasonably have resulted in a catastrophic release. The Panel further recommended that EPA consider proposing to require root cause analysis only for reportable releases, not including near misses. The Panel recommended that EPA clarify in the preamble the comparative advantages of a root cause analysis to the current incident investigation requirements in §§ 68.60 and 68.81 of the rule. Finally, the Panel recommended that EPA seek comments on:

- Whether the root cause analysis requirement should be eliminated;
- The revised definition of catastrophic release and whether it should be limited to loss of life, serious injury or significant damage or loss of offsite property; and

- Examples of near misses.

EPA incorporated preamble language to address these Panel recommendations in section IV.A of this document.

STAA—(Proposed Revisions Apply to § 68.67)

For STAA, EPA examined three potential alternative regulatory options, and chose the least costly option. The proposed option, which would apply the STAA requirement to Program 3 processes in NAICS 322 (paper manufacturing), 324 (petroleum and coal products manufacturing), and 325 (chemical manufacturing), costs \$34.8 million annually and is approximately half as costly as the medium option (\$71.7 million annually), which would apply the requirement to all Program 3 processes, and likely far less costly than the high option, which would require implementation of feasible safer alternatives for all Program 3 processes.

The low-cost STAA option not only minimizes the overall number of sources that are subject to it, but is also biased toward larger sources. This is because the three sectors selected for regulation under this proposed provision all have a lower percentage of small entities than the overall percentage of small entities within the RMP facility universe. As indicated in Table 23, approximately 39% of facilities regulated under the RMP regulation are owned by small entities. In comparison, NAICS 322 (paper manufacturing) has about 20% RMP-regulated small businesses within the sector, while NAICS 324 (petroleum and coal products manufacturing) and 325 (chemical manufacturing) each have approximately 10% small businesses.

TABLE 23—PERCENTAGE OF SMALL BUSINESSES IN NAICS 322, 324, 325 AND OVERALL

Sector	Small	Total	Percentage small
NAICS 322—Paper Manufacturing	9	46	19.6
NAICS 324—Petroleum and Coal Products Manufacturing	17	169	10.1
NAICS 325—Chemical Manufacturing	54	530	10.2
All Sectors	4,910	12,542	39.1

The SBAR Panel also made recommendations to further minimize the impacts of this provision on small businesses. The Panel recommended that EPA explain what evidence we have that caused us to reconsider the 1996 assessment that IST analysis was unlikely to yield additional benefits. The Panel further recommended that EPA seek comments on:

- Whether to eliminate this requirement;
- Limiting this provision to require analyses only to be conducted at the design stage of new processes; and
- Exempting batch toll manufacturers from this requirement.

EPA incorporated preamble language to address these Panel recommendations in section IV.C of this document.

Emergency Response Program Coordination With Local Responders—(Proposed Revisions Apply to §§ 68.90, New 68.93, and 68.95)

The proposed option (medium option) would require all facilities with Program 2 or Program 3 processes to coordinate with local response agencies annually and document coordination activities. This option would also allow the LEPC or local emergency response officials to require that the RMP-facility owner or operator comply with the emergency response program requirements of § 68.95. EPA considered, but did not propose, the more stringent option of requiring all facilities with Program 2 or Program 3 processes to implement an emergency response program and respond to accidental releases at the facility. The proposed option is estimated to cost \$6.3 million annually and is far less costly than the high option, which would likely have exceeded \$100 million annually. Therefore, by selecting the medium option, EPA substantially reduced the cost impact for the many small entities that may rely on local response organizations to respond to accidental releases at the source (see Exhibit 3–8 and Appendix B in the RIA for more information on the number, size, and industrial categories of non-responding facilities).

While EPA does not believe it is necessary to require that all facilities develop an in-house response

capability, the Agency believes that non-responding facilities, even if they are small businesses, must still coordinate with local public responders so that they are prepared to handle emergencies at the facility. EPA expects that these coordination activities will result in some sources, including some small entities, becoming responding facilities, which may involve additional costs for those facilities (see section 5.6 of the RIA). EPA believes this is necessary to meet the objectives of Clean Air Act section 112(r), which requires the Agency to promulgate regulations to (among other things) provide for a prompt emergency response to any accidental releases in order to protect human health and the environment. We also note that the 2013 accident at West Fertilizer, which was one of several accidents that triggered the Executive Order that ultimately led to this rule proposal, occurred at a facility that would likely have been considered a small entity under the established SBA criteria. The Agency believes it is appropriate to require that such facilities conduct adequate emergency coordination, and if necessary, develop adequate emergency response capabilities, even if they are small.

The SBAR Panel also made recommendations to further minimize the impacts of this provision on small businesses. The Panel recommended that EPA explain how coordination should occur between local emergency response officials and small facilities and clarify requirements for facilities that make a “good faith” effort to coordinate with local emergency response officials. The Panel also recommended that EPA seek comment on the proposed frequency for annual coordination. EPA incorporated preamble language to address these Panel recommendations in section V.A of this document.

Exercises—(Proposed Revisions Apply to New § 68.96)

Notification Exercises. The proposed rule would require all facilities with Program 2 or Program 3 processes to annually conduct an emergency notification exercise to ensure that their

emergency contact list is complete, accurate, and up-to-date. This proposed provision is expected to be one of the least costly rule provisions at \$1.4 million annually (only the incident investigation root cause analysis and public meetings provisions are estimated to cost less). Therefore EPA did not consider any alternatives to reduce the impact of this provision on small businesses, nor did the SBAR Panel make any such recommendations.

Tabletop and Field Exercises

The proposed option was the medium option, and would require responding facilities to conduct a full field exercise at least once every five years and tabletop exercises annually in the interim years. This option was substantially less costly than the high option (\$61 million vs \$104 million annually), which would require annual field exercises. As this provision only affects responding facilities, which tend to more often be large facilities (see Exhibit 3–8 in the RIA), EPA has proposed an option that mitigates the impact on small entities. EPA also considered a low option that would only require annual tabletop exercises. This option would have saved approximately \$11 million annually. We did not propose the low option because the Agency believes that periodic field exercises are an important component of a comprehensive emergency response program. Nevertheless, this was also a recommendation from the SBAR panel and we have requested comment on the low option provision in the preamble to the proposed rule.

The SBAR Panel also made other recommendations to further minimize the impacts of this provision on small businesses. The Panel recommended that EPA clarify that participation by local responders is not required for a facility to comply with exercise requirements and that field exercises and drills required by other state and Federal regulations could meet this requirement if the facility’s emergency response plan is tested as part of those exercises. The Panel also recommended that EPA seek comments on:

- Whether the exercise provision should be eliminated;

- How to address postponement and rescheduling issues (which SERs have indicated may take up to a year);
- Limiting the requirement to only tabletop exercises; and
- The frequency of required field and tabletop exercises.

EPA incorporated preamble language to address these Panel recommendations in section V.B of this document.

Information Availability—(Proposed Revisions Apply to New § 68.205 and Existing § 68.210)

There are three proposed information disclosure requirements. Under the proposed requirements, all facilities would be required to make certain information available to the public. Upon receiving a request from their LEPC or local emergency response official, regulated facilities would also be required to provide certain information to the LEPC or emergency response officials. Lastly, facilities would be required to hold public meetings within 30 days of any RMP reportable accident. In the preamble to the proposed rule, EPA has requested public comments on whether all regulated facilities should be required to hold a public meeting every five years and after an RMP reportable accident, or whether a requirement for periodic and post-accident public meetings should be limited to only Program 2 and Program 3 facilities. Although EPA has not proposed specific alternatives to minimize the impact of the information disclosure provisions on small businesses, the Agency believes that in general, smaller facilities will bear lower costs to comply with these provisions. By requiring certain information disclosure elements (*i.e.*, incident investigation and public meeting provisions) only following an RMP reportable accident, EPA is minimizing the impact to the overall universe of RMP facilities, and particularly to small businesses. Most RMP reportable accidents have generally occurred at facilities that do not meet SBA small business criteria (see Exhibit 7–11 in the RIA). Also, small facilities will generally have fewer processes, fewer chemicals, fewer accidental releases, etc., on which to provide information to LEPCs and the public.

The SBAR Panel also made recommendations to further minimize the impacts of this provision on small businesses. The Panel recommended that EPA:

- Consider only requiring facilities to develop chemical hazard information summaries and allowing LEPCs to make

reasonable requests for additional information;

- Make chemical hazard information available upon request by the LEPC rather than requiring it to be automatically submitted by the facility;
- Require that a public meeting be held only after an RMP reportable accident; and
- Allow public meetings to be combined with any meeting open to the general public (*e.g.* city council, municipal board, or LEPC meeting).

The Panel also recommended that EPA seeks comments on:

- Narrowing the approach to require a one page summary of each significant chemical hazard during a fire identifying the product, its properties, its location and firefighting measures for responders—a one-page summary of information that addresses chemical hazard information and emergency response measures;
- Limiting the amount of information to be shared with LEPCs;
- Whether EPA should specify a format for summary information to make it easier for local officials to find and interpret the information that they need;
- Ways to limit the scope of the information elements shared with the public as well as the format in which information should be provided (*e.g.* a one-page summary of information that addresses chemical hazard information and emergency response measures);
- Whether the existing RMP data, including the executive summary, are adequate for the public in the absence of a specific request, and
- Whether additional information should only be provided to the public upon request.
- Whether it is appropriate to require public meetings;
- Whether to eliminate the public meeting requirement and instead require the facility to schedule a meeting with the LEPC and/or emergency responders 60 to 90 days after an accident or incident;
- Whether public meetings should be held upon request (*e.g.*, LEPC or its community equivalent) rather than automatically within an established timeframe; and
- Extending the timeframe from 30 to 90 days or whether there is a more appropriate timeframe for scheduling a meeting following an RMP reportable accident and who should be included in the invitation (*e.g.* limit to local emergency response officials and LEPCs).

EPA incorporated preamble language to address these Panel recommendations in section VI of this document. EPA also revised the proposed rule to incorporate the following two Panel recommendations as the proposed options:

- Make chemical hazard information available upon request by the LEPC rather than requiring it to be automatically submitted by the facility; and
- Require that a public meeting be held only after an RMP reportable accident.

7. Small Business Advocacy Review

As required by section 609(b) of the RFA, the EPA also convened a SBAR Panel to obtain advice and recommendations from SERs that potentially would be subject to the rule's requirements. The SBAR Panel evaluated the assembled materials and small-entity comments on issues related to elements of an IRFA. The SBAR report contains the recommendations to the EPA Administrator from the three Federal Panel members (EPA, the Small Business Administration Office of Advocacy and the OMB Office of Information and Regulatory Affairs). This proposal was informed by the small entity comments and the Panel report recommendations were used in the development of this proposal, as provided in section 609(b) of the RFA. A copy of the full SBAR Panel Report is available in the rulemaking docket.

D. Unfunded Mandates Reform Act (UMRA)

This action contains a Federal mandate under UMRA, 2 U.S.C. 1531–1538, that may result in expenditures of \$100 million or more for state, local, and tribal governments, in the aggregate, or the private sector in any one year. Accordingly, the EPA has prepared a written statement required under section 202 of UMRA. The statement is included in the docket for this action and briefly summarized here.

Over the 16 years of implementing the RMP program and, most recently through Executive Order 13650 listening sessions, webinars, and consultations, EPA has engaged states and local communities to discuss chemical safety issues. In the nine Executive Order 13650 Improving Chemical Facility Safety and Security listening sessions and webinars, held between November 2013 and January 2014, states and local communities identified lack of chemical facility participation and coordination in local emergency contingency planning as a key barrier to successful local community preparedness. Additionally, EPA has had consultations with states and local communities through participation in the NASTTPO annual meetings to discuss key issues related to chemical facility and local community coordination and what areas of the RMP regulations need to be modernized to facilitate this coordination and improve local emergency preparedness and prevention. Key priority options discussed with NASTTPO states and local communities included: Improving emergency response coordination between RMP facilities and LEPCs/first

responder and requiring emergency response exercises of the RMP facility plan to involve LEPCs, first responders and emergency response personnel.

This action may significantly or uniquely affect small governments. The EPA consulted with small governments concerning the regulatory requirements that might significantly or uniquely affect them. Through the July 31, 2014, RFI (79 FR 44604), EPA sought feedback from governmental entities while formulating the proposed revisions in this action. Additionally, EPA participated in ongoing consultations with affected SERs (including small governmental entities) through the SBAR panel. EPA convened an SBAR panel in accordance with the requirements of the RFA, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA).

E. Executive Order 13132: Federalism

This action does not have Federalism implications. The EPA believes, however, that these proposed regulatory revisions may be of significant interest to local governments. Consistent with the EPA's policy to promote communications between the EPA and state and local governments, and to better understand the concerns of local governments, EPA sought feedback through the July 31, 2014, RFI (79 FR 44604). Additionally, consultations with governmental entities occurred through the SBREFA process.

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. EPA will be consulting 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 Executive Order 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 Executive Order 13045 because the EPA does not believe the environmental health risks or safety risks addressed by this action

present a disproportionate risk to children. The EPA believes that the proposed revisions to the Risk Management Program regulations would further protect human health, including the health of children, through advancement of process safety.

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

This proposed 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 proposed 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 action involves technical standards. The EPA proposes to require third-party auditors to be experienced with applicable RAGAGEP, which include Voluntary Consensus Standards as well as other measures, for regulated processes being audited. Numerous different standards apply to processes regulated under the proposed rule and their application will vary depending on the particular process and chemicals involved. EPA is not proposing to list all the various codes, standards and practices that would apply to the wide variety of chemical processes covered by this rule as doing so would be impracticable, given that this rule affects sectors across many industries and listing the applicable RAGAGEP measures would require the EPA to update that list every time there was a change in the industry standards or best practices. The proposed rule would require third-party auditors to be familiar with standards applicable to processes they audit, and to obtain their own copies of applicable standards where needed. Auditors must be knowledgeable of applicable consensus standards because the accident prevention program provisions of the existing rule (subparts C and D) require owners or operators to comply with RAGAGEP. Therefore, auditors must be knowledgeable of those practices in order to perform an effective audit. EPA seeks comment on this proposed RAGAGEP requirement.

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

The EPA believes the human health or environmental risk addressed by this action will not have potential

disproportionately high and adverse human health or environmental effects on minority, low income, or indigenous populations. The results of this evaluation are included in the RIA, located in the docket.

List of Subjects

40 CFR part 68

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

Dated: February 25, 2016.

Gina McCarthy,
Administrator.

For the reasons set out 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 the definition "Active measures";
 - b. Revising the definition "Catastrophic release", and
 - c. Adding in alphabetical order, the definitions, "CBI", "Feasible", "Inherently safer technology or design", "LEPC", "Passive measures", "Procedural measures", "Root cause", and "Third-party audit".

The additions and revisions read as follows:

§ 68.3 Definitions.

* * * * *

Active measures means 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).

* * * * *

Catastrophic release means a major uncontrolled emission, fire, or explosion, involving one or more regulated substances that results in deaths, injuries, or significant property damage on-site, or known offsite deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage.

CBI means confidential business information.

* * * * *

Feasible means capable of being successfully accomplished within a reasonable time, accounting for economic, environmental, legal, social, and technological factors.

Environmental factors would include consideration of potential transferred risks for new risk reduction measures.

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.

LEPC means local emergency planning committee as established under 42 U.S.C. 11001(c).

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

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

Root cause means a fundamental, underlying, system-related reason why an incident occurred that identifies a correctable failure(s) in management systems.

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

■ 3. Amend § 68.10 by:

- a. Revising paragraphs (a) introductory text; (a)(2) and (3); and adding paragraph (a)(4);
- b. Redesignating paragraphs (b) through (f) as paragraphs (f) through (j);
- c. Adding new paragraphs (b) through (e); and
- d. Revising the newly designated paragraph (f)(2).

The revisions and additions read as follow:

§ 68.10 Applicability.

(a) Except as provided in paragraphs (b) through (e) 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:

(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.

(b) Within 1 year of [DATE 1 YEAR AFTER THE EFFECTIVE DATE OF THE FINAL RULE] the owner or operator of a stationary source shall comply with the emergency response coordination activities in § 68.93(a) and (b).

(c) Within 3 years of the LEPC or equivalent requesting in writing, pursuant to § 68.90(b)(2), the owner or operator must develop and implement an emergency response program in accordance with § 68.95.

(d) By [DATE 4 YEARS AFTER THE EFFECTIVE DATE OF THE FINAL RULE], the owner or operator shall comply with the following provisions promulgated on [PUBLICATION DATE OF FINAL RULE]:

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

(2) Incident investigation root cause analysis provisions in §§ 68.60(d)(7) and 68.81(d)(7) and the incident root cause category information provision in § 68.42(b)(10);

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

(4) Emergency response exercise provisions of § 68.96; and;

(5) Availability of information provisions in §§ 68.205, 68.210(b), 68.210(c), and 68.210(d).

(e) By [DATE 5 YEARS AFTER EFFECTIVE DATE OF THE FINAL RULE], the owner or operator shall comply with the risk management plan provisions of subpart G promulgated on [PUBLICATION DATE OF FINAL RULE].

(f) * * *

(2) The distance to a toxic or flammable endpoint for a worst-case release assessment conducted under subpart B and § 68.25 is less than the distance to any public receptor, as defined in § 68.3; and

■ 4. Amend § 68.12 by:

- a. Revising paragraphs (c)(4) and (5), and adding paragraph (c)(6); and
- b. Revising paragraphs (d)(4) and (5), and adding paragraph (d)(6).

The revisions and additions read as follows:

§ 68.12 General requirements.

* * * * *

(c) * * *

(4) Coordinate response actions with local emergency planning and response agencies as provided in § 68.93;

(5) Develop and implement an emergency response program, and conduct exercises, as provided in §§ 68.90 to 68.96; and

(6) Submit as part of the RMP the data on prevention program elements for Program 2 processes as provided in § 68.170.

(d) * * *

(4) Coordinate response actions with local emergency planning and response agencies as provided in § 68.93;

(5) Develop and implement an emergency response program, and conduct exercises, as provided in §§ 68.90 to 68.95 96 of this part; and

(6) Submit as part of the RMP the data on prevention program elements for Program 3 processes as provided in § 68.175.

■ 5. Amend § 68.42 by redesignating paragraphs (b)(10) and (b)(11) as paragraphs (b)(11) and (b)(12) and adding a new paragraph (b)(10) to read as follows:

§ 68.42 Five-year accident history.

* * * * *

(b) * * *

(10) Categories of root causes identified based on the root cause analysis required in the incident investigation in accordance with § 68.60(d)(7) or § 68.81(d)(7);

* * * * *

■ 6. Amend § 68.48 by revising paragraph (a)(1) to read as follows:

§ 68.48 Safety information.

(a) * * *

(1) Safety Data Sheets (SDS) that meet the requirements of 29 CFR 1910.1200(g);

* * * * *

■ 7. Amend § 68.50 by revising paragraph (a)(2) to read as follows:

§ 68.50 Hazard review.

(a) * * *

(2) Opportunities for equipment malfunctions or human errors that could cause an accidental release, including findings from incident investigations;

* * * * *

■ 8. Amend § 68.54 by revising paragraphs (a), (b), and (d); and Adding a new paragraph (e) to read as follows:

§ 68.54 Training.

(a) The owner or operator shall ensure that each employee presently involved

in operating a process, and each employee newly assigned to a covered process have been trained or tested competent in the operating procedures provided in § 68.52 that pertain to their duties. For those employees already operating a process on June 21, 1999, the owner or operator may certify in writing that the employee has the required knowledge, skills, and abilities to safely carry out the duties and responsibilities as provided in the operating procedures.

(b) Refresher training. Refresher training shall be provided at least every three years, and more often if necessary, to each employee involved in operating a process to ensure that the employee understands and adheres to the current operating procedures of the process. The owner or operator, in consultation with the employees operating the process, shall determine the appropriate frequency of refresher training.

* * * * *

(d) The owner or operator shall ensure that employees involved in operating a process are trained in any updated or new procedures prior to startup of a process after a major change.

(e) For the purposes of this section, the term employee also includes supervisors responsible for directing process operations.

■ 9. 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 the rule are adequate and are being followed. When required as set forth in paragraph (f), 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 apply:

(1) An accidental release meeting the criteria in § 68.42(a) from a covered process at a stationary source has occurred; or

(2) An implementing agency requires a third-party audit based on non-compliance with the requirements of this subpart, including when a previous third-party audit failed to meet the competency, independence, or impartiality criteria of § 68.59(b).

(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)(2) of this section, the implementing agency will provide written notice to the owner or operator stating the reasons for the implementing agency's 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)(2) 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, and the audit report submitted to the implementing agency pursuant to § 68.59(c)(3) as follows, unless a different timeframe is specified by the implementing agency:

(1) Within 12 months of when any third-party audit is required pursuant to paragraphs (f) and/or (g) of this section; or

(2) Within three years of completion of the previous compliance audit, whichever is sooner.

■ 10. Section 68.59 is added to subpart C to read as follows:

§ 68.59 Third-party audits.

(a) *Applicability.* The owner or operator shall engage a third-party auditor to evaluate compliance with the provisions of this subpart in accordance with the requirements of this section when either criterion of § 68.58(f) is met.

(b) *Auditor qualifications.* The owner or operator shall determine and document that the auditor and/or audit

team are independent and impartial, and that the auditor's or audit team's credentials address the following competency requirements:

(1) *Competency requirements.* The auditor/auditor team 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;

(iii) Trained or certified in proper auditing techniques; and

(iv) A licensed Professional Engineer (PE), or shall include a licensed PE on the audit team.

(2) *Independence and impartiality requirements.* The auditor/audit team 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 the auditing services;

(iii) Not have conducted past research, development, design, construction services, or consulting for the owner or operator within the last 3 years. For purposes of this requirement, consulting does not include performing or participating in third-party audits pursuant to § 68.59 or § 68.80;

(iv) Not provide other business or consulting services to the owner or operator, including advice or assistance to implement the findings or recommendations in an audit report, for a period of at least 3 years following submission of the final audit report;

(v) Ensure that all personnel involved in the audit sign and date the conflict of interest statement in § 68.59(c)(1)(v); and

(vi) Ensure that all 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 3 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, independence, and impartiality requirements of this section.

(c) *Third-party audit report.* The owner or operator shall ensure that the auditor prepares and submits an audit report as follows:

(1) The scope and content of each audit report shall:

(i) Identify the lead auditor or manager, participating individuals, and any other key persons participating in

the audit, including names, titles, and summaries of qualifications demonstrating that the competency requirements in paragraph (b)(1) of this section are met;

(ii) 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;

(iii) Document the findings of the audit, including any identified compliance or performance deficiencies;

(iv) Include a summary of the owner's or operator's comments on, and identify any adjustments made by the auditor to, any draft audit report provided by the auditor to the owner or operator for review or comment; and

(v) Include the following certification, signed and dated by the auditor or supervising manager for 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. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

(2) The auditor shall retain copies of all audit reports and related records for a period of five years, and make them available if directed by the owner or operator, to the owner or operator and/or the implementing agency.

(3) The auditor shall submit the audit report to the implementing agency at the same time, or before, it provides it to the owner or operator.

(4) The audit report and related records shall not be privileged as attorney-client communications or attorney work products, even if written for or reviewed by legal staff.

(d) *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 and provide to the implementing agency 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 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 submitting false information, including the possibility of fines and imprisonment for knowing violations.

(2) *Schedule to address deficiencies.*

The owner or operator shall implement the schedule to address deficiencies identified in the audit findings response report in paragraph (d)(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 (d)(1) and (d)(2) of this section, when completed, to the owner or operator's audit committee of the Board of Directors, or other comparable committee, if one exists.

(e) *Recordkeeping.* The owner or operator shall retain at the stationary source, the following:

(1) The two most recent 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.

(2) Copies of all draft third-party audit reports. The owner or operator shall provide draft third-party audit reports to the implementing agency upon request. This requirement does not apply to any draft audit reports that are more than five years old.

■ 11. Amend § 68.60 by:

- a. Revising paragraph (a);
- b. Redesignating paragraphs (c) through (f) as paragraphs (d) through (g);
- c. Adding a new paragraph (c); and
- d. Revising the newly designated paragraphs (d) and (g).

The revisions and additions read as follows:

§ 68.60 Incident investigation.

(a) The owner or operator shall investigate each incident that:

(1) Resulted in a catastrophic release (including when the affected process is decommissioned or destroyed following, or as the result of, an incident); or

(2) Could reasonably have resulted in a catastrophic release (*i.e.*, was a near miss).

* * * * *

(c) An incident investigation team shall be established and consist of at least one person knowledgeable in the process involved and other persons with appropriate knowledge and experience to thoroughly investigate and analyze the incident.

(d) A report shall be prepared at the conclusion of the investigation. The report shall be completed within 12 months of the incident, unless the implementing agency approves, in writing, an extension of time. The report shall include:

(1) Date, time, and location of incident;

(2) Date investigation began;

(3) A description of the incident, in chronological order, providing all relevant facts;

(4) The name and amount of the regulated substance involved in the release (*e.g.*, fire, explosion, toxic gas loss of containment) or near miss and the duration of the event;

(5) The consequences, if any, of the incident including, but not limited to: injuries, fatalities, the number of people evacuated, the number of people sheltered in place, and the impact on the environment;

(6) Emergency response actions taken;

(7) The 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; and

(8) Any recommendations resulting from the investigation and a schedule for addressing them.

* * * * *

(g) Incident investigation reports shall be retained for five years.

■ 12. Amend § 68.65 by revising the first sentence of paragraph (a) and the note to paragraph (b) 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.

* * *

(b) * * *

Note to paragraph (b): Safety Data Sheets (SDS) meeting the requirements of 29 CFR 1910.1200(g) may be used to comply with this requirement to the extent they contain the information required by this subparagraph.

* * * * *

■ 13. Amend § 68.67 by:

■ a. Revising paragraph (c)(2);

■ b. In paragraph (c)(6) removing the word “and”;

■ c. In paragraph (c)(7) removing the period at the end of the paragraph and adding “; and” in its place; and

■ d. Adding paragraph (c)(8).

The revisions and additions read as follows:

§ 68.67 Process hazard analysis.

* * * * *

(c) * * *

(2) The findings from all incident investigations required under section 68.81, as well as any other potential failure scenarios;

* * * * *

(8) For processes in NAICS 322, 324, and 325, safer technology and alternative risk management measures applicable to eliminating or reducing risk from process hazards.

(i) The owner or operator shall consider, 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 the feasibility of the inherently safer technologies and designs considered.

* * * * *

■ 14. Amend § 68.71 by adding paragraph (d) to read as follows:

§ 68.71 Training.

* * * * *

(d) For the purposes of this section, the term employee also includes supervisors with process operational responsibilities.

■ 15. 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 rule are adequate and are being followed. When required as set forth in paragraph

(f), 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 apply:

(1) An accidental release meeting the criteria in § 68.42(a) from a covered process at a stationary source has occurred; or

(2) An implementing agency requires a third-party audit based on non-compliance with the requirements of this subpart, including when a previous third-party audit failed to meet the competency, independence, or impartiality criteria of § 68.80(b).

(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)(2) of this section, the implementing agency will provide written notice to the owner or operator stating the reasons for the implementing agency's 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)(2) 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, and the audit report submitted to the implementing agency pursuant to § 68.80(c)(3) as follows, unless a different timeframe is specified by the implementing agency:

(1) Within 12 months of when any third-party audit is required pursuant to paragraphs (f) and/or (g) of this section; or

(2) Within three years of completion of the previous compliance audit, whichever is sooner.

■ 16. Section 68.80 is added to subpart D to read as follows:

§ 68.80 Third-party audits.

(a) *Applicability.* The owner or operator shall engage a third-party auditor to evaluate compliance with the provisions of this subpart in accordance with the requirements of this section when either criterion of § 68.79(f) is met.

(b) *Auditor qualifications.* The owner or operator shall determine and document that the auditor and/or audit team are independent and impartial, and that the auditor's or audit team's credentials address the following competency requirements:

(1) *Competency requirements.* The auditor/auditor team 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;

(iii) Trained or certified in proper auditing techniques; and

(iv) A licensed PE, or shall include a licensed PE on the audit team.

(2) *Independence and impartiality requirements.* The auditor/audit team 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 the auditing services;

(iii) Not have conducted past research, development, design, construction services, or consulting for the owner or operator within the last 3 years. For purposes of this requirement, consulting does not include performing or participating in third-party audits pursuant to § 68.59 or § 68.80;

(iv) Not provide other business or consulting services to the owner or operator, including advice or assistance to implement the findings or recommendations in an audit report, for a period of at least 3 years following submission of the final audit report;

(v) Ensure that all personnel involved in the audit sign and date the conflict of interest statement in § 68.59(c)(1)(v); and

(vi) Ensure that all 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 3 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, independence, and impartiality requirements of this section.

(c) *Third-party audit report.* The owner or operator shall ensure that the auditor prepares and submits an audit report as follows:

(1) The scope and content of each audit report shall:

(i) Identify the lead auditor or manager, participating individuals, and any other key persons participating in the audit, including names, titles, and summaries of qualifications demonstrating that the competency requirements in paragraph (b)(1) of this section are met;

(ii) 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;

(iii) Document the findings of the audit, including any identified compliance or performance deficiencies;

(iv) Include a summary of the owner's or operator's comments on, and identify any adjustments made by the auditor to, any draft audit report provided by the auditor to the owner or operator for review or comment; and

(v) Include the following certification, signed and dated by the auditor or supervising manager for 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. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations."

(2) The auditor shall retain copies of all audit reports and related records for a period of five years, and make them available if directed by the owner or

operator, to the owner or operator and/ or the implementing agency.

(3) The auditor shall submit the audit report to the implementing agency at the same time, or before, it provides it to the owner or operator.

(4) The audit report and related records shall not be privileged as attorney-client communications or attorney work products, even if written for or reviewed by legal staff.

(d) *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 and provide to the implementing agency 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 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 submitting false information, including the possibility of fines and imprisonment for knowing violations."

(2) *Schedule to address deficiencies.* The owner or operator shall implement the schedule to address deficiencies identified in the audit findings response report in paragraph (d)(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 (d)(1) and (d)(2) of this section, when completed, to the owner or operator's audit committee of the Board of Directors, or other comparable committee, if one exists.

(e) *Recordkeeping.* The owner or operator shall retain at the stationary source, the following:

(1) The two most recent 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.

(2) Copies of all draft third-party audit reports. The owner or operator shall provide draft third-party audit reports to the implementing agency upon request. This requirement does not apply to any draft audit reports that are more than five years old.

■ 17. Amend § 68.81 by revising paragraphs (a), (d) introductory text, (d)(1), (d)(3) through (5), and adding paragraphs (d)(6) through (8) to read as follows:

§ 68.81 Incident investigation.

(a) The owner or operator shall investigate each incident that:

(1) Resulted in a catastrophic release (including when the affected process is decommissioned or destroyed following, or as the result of, an incident); or

(2) Could reasonably have resulted in a catastrophic release (*i.e.*, was a near miss).

* * * * *

(d) A report shall be prepared at the conclusion of the investigation. The report shall be completed within 12 months of the incident, unless the implementing agency approves, in writing, an extension of time. The report shall include:

(1) Date, time, and location of incident;

* * * * *

(3) A description of the incident, in chronological order, providing all relevant facts;

(4) The name and amount of the regulated substance involved in the release (*e.g.*, fire, explosion, toxic gas loss of containment) or near miss and the duration of the event;

(5) The consequences, if any, of the incident including, but not limited to: Injuries, fatalities, the number of people evacuated, the number of people sheltered in place, and the impact on the environment;

(6) Emergency response actions taken;

(7) The 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; and

(8) Any recommendations resulting from the investigation and a schedule for addressing them.

* * * * *

■ 18. Revise § 68.90 to read as follows:

§ 68.90 Applicability.

(a) *Non-responding stationary source.* The owner or operator of a stationary source need not comply with § 68.95 of this part provided that:

(1) The coordination activities required under § 68.93 indicate that adequate local public emergency response capabilities are available to appropriately respond to any accidental release of the regulated substances at the stationary source;

(2) Appropriate mechanisms are in place to notify emergency responders when there is a need for a response; and

(3) The LEPC or equivalent has not requested in writing that the owner or operator comply with the requirements of § 68.95.

(b) *Responding stationary source.* The owner or operator of a stationary source shall coordinate response activities as described in § 68.93. The owner or operator shall also comply with the requirements of § 68.95 when:

(1) The outcome of the response coordination activities demonstrates that local public emergency response capabilities are not adequate to appropriately respond to an accidental release of the regulated substances at the stationary source; or

(2) The LEPC or equivalent requests in writing that the owner or operator of the stationary source comply with the requirements of § 68.95.

■ 19. Section 68.93 is added to subpart E to read as follows:

§ 68.93 Emergency response coordination activities.

The owner or operator of a stationary source shall coordinate response needs with local emergency planning and response organizations to ensure resources and capabilities are in place to respond to an accidental release of a regulated substance.

(a) Coordination shall occur at least annually, and more frequently if necessary, to address changes: At the source; in the source's emergency action plan; in local authorities' response resources and capabilities; or in the local community emergency response plan.

(b) The owner or operator shall document coordination with local authorities, including: The names of individuals involved and their contact information (phone number, email address, and organizational affiliations); dates of coordination activities; and nature of coordination activities.

(c) The owner or operator shall coordinate potential response actions as follows:

(1) For stationary sources with any regulated toxic substance held in a process above the threshold quantity, the owner or operator shall coordinate potential response actions with the LEPC or equivalent and ensure that the stationary source is included in the community emergency response plan developed under 42 U.S.C. 11003; and/or

(2) For stationary sources with only regulated flammable substances held in a process above the threshold quantity, the owner or operator shall coordinate response actions with the local fire department.

■ 20. Amend § 68.95 by:

■ a. Revising paragraph (a)(1)(i);

■ b. Adding a sentence to the end of paragraph (a)(4); and

■ c. Revising paragraph (c).

The revisions and addition 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;

* * * * *

(4) * * * The owner or operator shall review and update the program annually, or more frequently if necessary, to incorporate recommendations and lessons learned from emergency response exercises and/or incident investigations, or other available information.

* * * * *

(c) The emergency response plan developed under paragraph (a)(1) of this section shall be coordinated with the community emergency response plan developed under 42 U.S.C. 11003. 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.

■ 21. Section 68.96 is added to subpart E to read as follows:

§ 68.96 Emergency response exercises.

(a) *Notification exercises.* At least once each calendar year, the owner or operator of a stationary source with any Program 2 or Program 3 process shall conduct an exercise of the source's emergency response notification mechanisms required under § 68.90(a)(2) or § 68.95(a)(1)(i), as appropriate. Owners or operators of responding stationary sources may perform the notification exercise as part of the tabletop and field exercises

required in § 68.96(b). The owner/operator shall maintain a written record of each notification exercise conducted over the last five years.

(b) *Emergency response exercise program.* The owner or operator of a stationary source subject to the requirements of § 68.95 shall develop and implement an exercise program for its emergency response program, including the plan required under § 68.95(a)(1). When planning emergency response field and tabletop exercises, the owner or operator shall coordinate with local public emergency response officials and invite them to participate in the exercise. The emergency response exercise program shall include:

(1) *Emergency response field exercises.* The owner or operator shall conduct a field exercise involving the simulated accidental release of a regulated substance (*i.e.*, toxic substance release or release of a regulated flammable substance involving a fire and/or explosion).

(i) *Frequency.* The field exercise shall be conducted at least once every five years, and within one year of any accidental release required to be reported under § 68.42.

(ii) *Scope.* The field exercise shall include tests of: Procedures to notify the public and the appropriate Federal, state, and local emergency response agencies about an accidental release; procedures and measures for emergency response actions including evacuations and medical treatment; communications systems; mobilization of facility emergency response personnel, including contractors, as appropriate; coordination with local emergency responders; equipment deployment; and any other action identified in the emergency response program, as appropriate.

(2) *Tabletop exercises.* The owner or operator shall conduct a tabletop exercise involving the simulated accidental release of a regulated substance. The exercise shall involve facility emergency response personnel, response contractors, and local emergency response and planning officials, as appropriate.

(i) *Frequency.* The owner or operator of a stationary source shall conduct tabletop exercises annually, except during the calendar year when a field exercise is conducted.

(ii) *Scope.* The exercise shall include tests of: Procedures to notify the public and the appropriate Federal, state, and local emergency response agencies; procedures and measures for emergency response including evacuations and medical treatment; identification of facility emergency response personnel

and/or contractors and their responsibilities; coordination with local emergency responders; procedures for equipment deployment; and any other action identified in the emergency response plan, as appropriate.

(3) *Documentation.* The owner/operator shall prepare an evaluation report within 90 days of each 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.

■ 22. Amend § 68.130 by:

■ a. In Table 1, “List of Regulated Toxic Substances and Threshold Quantities for Accidental Release Prevention”, under second column entitled “CAS No.”, removing the number “107–18–61” adding “107–18–6” in its place; and

■ b. Revising Table 4, “List of Regulated Flammable Substances and Threshold Quantities for Accidental Release Prevention”.

The revisions read as follows:

TABLE 4 TO § 68.130—LIST OF REGULATED FLAMMABLE SUBSTANCES¹ AND THRESHOLD QUANTITIES FOR ACCIDENTAL RELEASE PREVENTION
[CAS Number Order—63 Substances]

CAS No.	Chemical name	Threshold quantity (lbs)	Basis for listing
60–29–7	Ethyl ether [Ethane, 1,1'-oxybis-]	10,000	g
74–82–8	Methane	10,000	f
74–84–0	Ethane	10,000	f
74–85–1	Ethylene [Ethene]	10,000	f
74–86–2	Acetylene [Ethyne]	10,000	f
74–89–5	Methylamine [Methanamine]	10,000	f
74–98–6	Propane	10,000	f
74–99–7	Propyne [1-Propyne]	10,000	f
75–00–3	Ethyl chloride [Ethane, chloro-]	10,000	f
75–01–4	Vinyl chloride [Ethene, chloro-]	10,000	a, f
75–02–5	Vinyl fluoride [Ethene, fluoro-]	10,000	f
75–04–7	Ethylamine [Ethanamine]	10,000	f
75–07–0	Acetaldehyde	10,000	g
75–08–1	Ethyl mercaptan [Ethanethiol]	10,000	g
75–19–4	Cyclopropane	10,000	f
75–28–5	Isobutane [Propane, 2-methyl]	10,000	f
75–29–6	Isopropyl chloride [Propane, 2-chloro-]	10,000	g
75–31–0	Isopropylamine [2-Propanamine]	10,000	g
75–35–4	Vinylidene chloride [Ethene, 1,1-dichloro-]	10,000	g
75–37–6	Difluoroethane [Ethane, 1,1-difluoro-]	10,000	f
75–38–7	Vinylidene fluoride [Ethene, 1,1-difluoro-]	10,000	f
75–50–3	Trimethylamine [Methanamine, N, N-dimethyl-]	10,000	f
75–76–3	Tetramethylsilane [Silane, tetramethyl-]	10,000	g
78–78–4	Isopentane [Butane, 2-methyl-]	10,000	g
78–79–5	Isoprene [1,3-Butadiene, 2-methyl-]	10,000	g
79–38–9	Trifluorochloroethylene [Ethene, chlorotrifluoro-]	10,000	f
106–97–8	Butane	10,000	f
106–98–9	1-Butene	10,000	f
106–99–0	1,3-Butadiene	10,000	f
107–00–6	Ethyl acetylene [1-Butyne]	10,000	f
107–01–7	2-Butene	10,000	f
107–25–5	Vinyl methyl ether [Ethene, methoxy-]	10,000	f
107–31–3	Methyl formate [Formic acid, methyl ester]	10,000	g
109–66–0	Pentane	10,000	g
109–67–1	1-Pentene	10,000	g
109–92–2	Vinyl ethyl ether [Ethene, ethoxy-]	10,000	g
109–95–5	Ethyl nitrite [Nitrous acid, ethyl ester]	10,000	f
115–07–1	Propylene [1-Propene]	10,000	f
115–10–6	Methyl ether [Methane, oxybis-]	10,000	f
115–11–7	2-Methylpropene [1-Propene, 2-methyl-]	10,000	f
116–14–3	Tetrafluoroethylene [Ethene, tetrafluoro-]	10,000	f
124–40–3	Dimethylamine [Methanamine, N-methyl-]	10,000	f
460–19–5	Cyanogen [Ethanedinitrile]	10,000	f
463–49–0	Propadiene [1,2-Propadiene]	10,000	f
463–58–1	Carbon oxysulfide [Carbon oxide sulfide (COS)]	10,000	f
463–82–1	2,2-Dimethylpropane [Propane, 2,2-dimethyl-]	10,000	f
504–60–9	1,3-Pentadiene	10,000	f
557–98–2	2-Chloropropylene [1-Propene, 2-chloro-]	10,000	g
563–45–1	3-Methyl-1-butene	10,000	f
563–46–2	2-Methyl-1-butene	10,000	g
590–18–1	2-Butene-cis	10,000	f
590–21–6	1-Chloropropylene [1-Propene, 1-chloro-]	10,000	g
598–73–2	Bromotrifluoroethylene [Ethene, bromotrifluoro-]	10,000	f
624–64–6	2-Butene-trans [2-Butene, (E)]	10,000	f
627–20–3	2-Pentene, (Z)-	10,000	g
646–04–8	2-Pentene, (E)-	10,000	g
689–97–4	Vinyl acetylene [1-Buten-3-yne]	10,000	f
1333–74–0	Hydrogen	10,000	f
4109–96–0	Dichlorosilane [Silane, dichloro-]	10,000	f
7791–21–1	Chlorine monoxide [Chlorine oxide]	10,000	f
7803–62–5	Silane	10,000	f
10025–78–2	Trichlorosilane [Silane, trichloro-]	10,000	g

TABLE 4 TO § 68.130—LIST OF REGULATED FLAMMABLE SUBSTANCES¹ AND THRESHOLD QUANTITIES FOR ACCIDENTAL RELEASE PREVENTION—Continued
[CAS Number Order—63 Substances]

CAS No.	Chemical name	Threshold quantity (lbs)	Basis for listing
25167-67-3	Butene	10,000	f

¹A flammable substance when used as a fuel or held for sale as a fuel at a retail facility is excluded from all provisions of this part (see § 68.126).

NOTE: Basis for Listing:

^a Mandated for listing by Congress.

^f Flammable gas.

^g Volatile flammable liquid.

- 23. Amend § 68.160 by:
- a. Revising paragraphs (b)(1), (4), (5), (9), and (12);
- b. Removing and reserving paragraph (b)(13);
- c. Revising paragraphs (b)(14) through (18);
- d. Removing and reserving paragraph (b)(19);
- e. Revising paragraphs (b)(20)(ii) and (iv); and
- f. Adding paragraphs (b)(21) through (23).

The revisions and additions reads as follows:

§ 68.160 Registration.

* * * * *

(b) * * *

(1) Stationary source name, street, city, county, state, zip code, latitude and longitude, and description of location that latitude and longitude represent;

* * * * *

(4) The name, telephone number, mailing address, and email address of the owner or operator;

(5) The name and title of the person with overall responsibility for RMP elements and implementation, and the email address for that person;

* * * * *

(9) The number of full-time equivalent employees at the stationary source;

* * * * *

(12) If the stationary source has a CAA Title V operating permit, and if so, the permit number;

* * * * *

(14) The name, mailing address, email address, and telephone number of the contractor who prepared the RMP (if any);

(15) Source or parent company email address (if an email address exists);

(16) Source internet address (if an internet address exists);

(17) Phone number at the source for public inquiries (if a public inquiries phone number exists);

(18) LEPC name, phone number, email address, and internet address (if applicable and available);

* * * * *

(20) * * *

(ii) Corrections under § 68.195 or for purposes of correcting minor clerical errors, updating administrative information, providing missing data elements or reflecting stationary source ownership changes, and which do not require an update and re-submission as specified in § 68.190(b);

* * * * *

(iv) Withdrawals of an RMP for any stationary source that was erroneously considered subject to this part 68;

(21) Whether chemical hazard information has been provided to the LEPC or emergency response officials, pursuant to § 68.205;

(22) Location or means of public access for chemical hazard information made available to the public, pursuant to § 68.210; and

(23) Whether a public meeting has been held following an RMP reportable accident, pursuant to § 68.210(d).

■ 24. Amend § 68.170 by:

■ a. Revising paragraph (a);

■ b. Revising paragraph (d);

■ c. Revising paragraphs (e) introductory text, (e)(1), and (f) through (h);

■ d. Revising paragraphs (i) and (j);

■ e. Removing paragraph (k).

The revisions and additions read as follows:

§ 68.170 Prevention program/Program 2.

(a) For each Program 2 process, the owner or operator shall provide in the RMP the information indicated in paragraphs (b) through (j) of this section. If the same information applies to more than one covered process, the owner or operator may provide the information only once, but shall indicate to which processes the information applies.

* * * * *

(d)(1) Whether safety information requirements, in § 68.48, are implemented.

(2) A list of all Federal and state regulations, industry-specific and established company or stationary source design codes and standards that are applicable, and identify those

followed, to demonstrate compliance with the safety information requirements.

(e) The most recent hazard review or hazard review update information, pursuant to § 68.50, including:

(1) The date of completion of the most recent hazard review or hazard review update;

* * * * *

(f) Whether operating procedure requirements, in § 68.52, are implemented.

(g) Whether training requirements, in § 68.54, are implemented.

(h) Whether maintenance requirements, in § 68.56, are implemented.

(i)(1) Whether compliance audit requirements, in § 68.58, are implemented.

(2) The date of the most recent compliance audit.

(3) Whether the most recent compliance audit was a third-party audit, pursuant to §§ 68.58 and 68.59.

(j)(1) Whether incident investigation requirements, in § 68.60, are implemented.

(2) The date of the most recent incident investigation.

(3) Whether root cause analyses have been completed for all accidents and incidents that are subject to the incident investigation requirements in § 68.60.

■ 25. Amend § 68.175 by revising paragraphs (a) and (d) through (o) and removing paragraph (p) to read as follows:

§ 68.175 Prevention program/Program 3.

(a) For each Program 3 process, the owner or operator shall provide the information indicated in paragraphs (b) through (o) of this section. If the same information applies to more than one covered process, the owner or operator may provide the information only once, but shall indicate to which processes the information applies.

* * * * *

(d)(1) Whether process safety information requirements, in § 68.65, are implemented.

(2) A list of all Federal and state regulations, industry-specific and established company or stationary source design codes and standards that are applicable, and identify those followed, to demonstrate compliance with the process safety information requirements.

(e)(1) The most recent process hazard analysis (PHA) or PHA update and revalidation information, pursuant to § 68.67, including:

(i) The date of completion of the most recent PHA or update and the technique used;

(ii) Major hazards identified;

(iii) Process controls in use;

(iv) Mitigation systems in use;

(v) Monitoring and detection systems in use; and

(vi) Changes since the last PHA.

(2)(i) Whether the current PHA addresses safer technology and alternative risk management measures, as required in § 68.67(c)(8).

(ii) Whether any inherently safer technology or design measures were implemented.

(iii) If any inherently safer technology or design measures were implemented, identify the measure and the technology category (substitution, minimization, simplification, and/or moderation).

(f) Whether operating procedure requirements, in § 68.69, are implemented.

(g) Whether training requirements, in § 68.71, are implemented.

(h) Whether mechanical integrity requirements, in § 68.73, are implemented.

(i) Whether management of change requirements, in § 68.75, are implemented.

(j) Whether pre-startup review requirements, in § 68.77, are implemented.

(k)(1) Whether compliance audit requirements, in § 68.79, are implemented.

(2) The date of the most recent compliance audit.

(3) Whether the most recent compliance audit was a third-party audit, pursuant to §§ 68.79 and 68.80.

(l)(1) Whether incident investigation requirements, in § 68.81, are implemented.

(2) The date of the most recent incident investigation.

(3) Whether root cause analyses have been completed for all accidents and incidents that are subject to the incident investigation requirements in § 68.81.

(m) Whether employee participation requirements, in § 68.83, are implemented.

(n) Whether hot work permit requirements, in § 68.85, are implemented.

(o) Whether contractor safety requirements, in § 68.87, are implemented.

■ 26. Revise § 68.180 to read as follows:

§ 68.180 Emergency response program and exercises.

(a) The owner or operator shall provide in the RMP:

(1) Name, organizational affiliation, phone number, and email address of local emergency planning and response organizations with which the stationary source last coordinated emergency response efforts, pursuant to § 68.10(b)(3) or § 68.93;

(2) Whether coordination with the local emergency response organizations is occurring at least annually, pursuant to § 68.93(a); and

(3) A list of Federal or state emergency plan requirements to which the stationary source is subject.

(b) The owner or operator shall identify whether the facility is a responding stationary source or a non-responding stationary source, pursuant to § 68.90.

(1) For non-responding stationary sources, the owner or operator shall identify:

(i) Whether the owner or operator of the stationary source has confirmed that the local emergency response entity is capable of responding to accidental releases at the stationary source;

(ii) Whether appropriate mechanisms are in place to notify public emergency responders when there is a need for emergency response; and

(iii) Whether a notification exercise occurs at least annually, as required in § 68.96(a).

(2) For responding stationary sources, the owner or operator shall identify:

(i) Whether the LEPC or local response entity requested the stationary source to be a responding stationary source as required in § 68.90(a)(3);

(ii) Whether the stationary source complies with emergency response program requirements in § 68.95;

(iii) Whether a notification exercise occurs at least annually, as required in § 68.96(a);

(iv) Whether a field exercise is conducted every five years and after any RMP reportable accident, pursuant to § 68.96(b)(1)(i); and

(v) Whether a tabletop exercise occurs at least annually, except during the calendar year when a field exercise is conducted, as required in § 68.96(b)(2)(i).

■ 27. In § 68.190 amend paragraph (c) by adding a sentence at the end to read as follows:

§ 68.190 Updates.

* * * * *

(c) * * * Prior to de-registration the owner or operator shall meet applicable reporting and incident investigation requirements in accordance with §§ 68.42, 68.60, and/or 68.81.

■ 28. Amend § 68.195 by revising paragraph (a) to read as follows:

§ 68.195 Required corrections.

* * * * *

(a) *New accident history information.*

(1) For any accidental release meeting the five-year accident history reporting criteria of § 68.42 and occurring after April 9, 2004, the owner or operator shall submit the data required under § 68.168, except for root cause information required in § 68.42(b)(10), with respect to that accident within six months of the release or by the time the RMP is updated under § 68.190, whichever is earlier.

(2) Root cause information required under § 68.42(b)(10) shall be submitted within 12 months, or by the alternative timeframe provided by an implementing agency, as specified in §§ 68.60(d) or 68.81(d).

* * * * *

■ 29. Revise § 68.200 to read as follows:

§ 68.200 Recordkeeping.

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.

■ 30. Section § 68.205 is added to subpart H to read as follows:

§ 68.205 Availability of information to the LEPC or emergency response officials.

(a) *RMP availability.* The RMP required under subpart G of this part shall be available to local emergency responders and LEPCs under 42 U.S.C. 7414(c) and 40 CFR part 1400.

(b) *Chemical hazard information.* The owner or operator of a stationary source shall develop summaries of chemical hazard information for all regulated processes and provide the information, upon request, to the LEPC or emergency response officials. Information shall include, as applicable:

(1) *Information on regulated substances.* Names and quantities of regulated substances held in a process.

(2) *Accident history information.* Provide the five-year accident history information required to be reported under § 68.42.

(3) *Compliance audit reports.* Summaries of compliance audit reports developed in accordance with §§ 68.58, 68.59, 68.79, or 68.80, as applicable, updated as part of the calendar year submission described in subparagraph (c). The summary shall include:

- (j) The date of the report;
- (ii) Name and contact information of auditor and facility contact person;
- (iii) Brief description of the findings;
- (iv) An appropriate response to each of the findings; and
- (v) Schedule for addressing each of the findings, as applicable.

(4) *Incident investigation reports.* Summaries of incident investigation reports developed in accordance with § 68.60(d) or § 68.81(d), as applicable. The summary shall include:

- (i) Description of the incident and events leading up to it, including a timeline;
- (ii) Brief description of the process involved;
- (iii) Names and contact information of personnel on the investigation team;
- (iv) Direct, contributing, and root causes of the incident;
- (v) On-site and offsite impacts;
- (vi) Emergency response actions taken;
- (vii) Recommendations; and
- (viii) Schedule for implementing recommendations, as applicable.

(5) *Inherently safer technology.* For each process in NAICS codes 322, 324, and 325, provide a summary of the inherently safer technologies (IST) or inherently safer designs (ISD) implemented or planned, in accordance with § 68.67(c)(8). Update the summary, as part of the calendar year submission described in subparagraph (c), and following any revisions prepared in accordance with 68.67(f) and indicate when no revisions are incorporated, as applicable. The summary shall include:

- (i) The RMP process ID and process description, if provided, of the process affected;
- (ii) A brief description of the IST or ISD and which IST/ISD type of measure best characterizes it: Minimization, substitution, moderation or simplification;
- (iii) The name of the RMP regulated substance(s) whose hazard, potential exposure or risk was or will be reduced as a result of the implementation and whether the substance is listed as a toxic or flammable. If the chemicals affected are a mixture of flammables, the name "flammable mixture" may be used rather than the individual flammable substance names; and
- (iv) The date of implementation or planned implementation.

(6) *Exercises.* Information on emergency response exercises required under § 68.96. The information shall include schedules for upcoming

exercises, reports for completed exercises as described in § 68.96(b)(3), and any other related information.

(c) *Submission dates and updates.* The owner or operator shall update summary information every calendar year, including all applicable information that was revised since the last submission, and provide the information upon request.

(d) *Classified information.* The disclosure of information classified by the Department of Defense or other Federal agencies or contractors of such agencies shall be controlled by applicable laws, regulations, or executive orders concerning the release of classified information.

(e) *CBI.* An owner or operator asserting CBI for information required under this section shall provide a sanitized version to the LEPC or emergency response officials. Assertion of claims of CBI and substantiation of CBI claims shall be in the same manner as required in 40 CFR 68.151 and 68.152 for information contained in the RMP required under subpart G of this part. As provided under 40 CFR 68.151(b)(3), an owner or operator of a stationary source may not claim five-year accident history information as CBI. As provided in 40 CFR 68.151(c)(2), an owner or operator of a stationary source asserting that a chemical name is CBI shall provide a generic category or class name as a substitute.

■ 31. Revise § 68.210 to read as follows:

§ 68.210 Availability of information to the public.

(a) *RMP availability.* The RMP required under subpart G of this part shall be available to the public under 42 U.S.C. 7414(c) and 40 CFR part 1400.

(b) *Chemical hazard information.* The owner or operator of a stationary source shall distribute chemical hazard information for all regulated processes to the public in an easily accessible manner, such as on a company Web site, including, as applicable:

(1) *Regulated substances information.* Names of regulated substances held in a process.

(2) *Safety data sheets (SDS).* 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.* Summary information concerning the source's compliance with § 68.10(b)(3)

or the emergency response provisions of subpart E, including:

(i) Whether the 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 sources subject to § 68.95, procedures for informing the public and local emergency response agencies about accidental releases;

(5) *Exercises.* The summary information required under § 68.205(b)(6).

(6) *LEPC contact information.* Include LEPC name, phone number, and Web address as available.

(c) *Submission dates and updates.* The owner or operator shall update and submit information required under § 68.210(b) every calendar year, including all applicable information that was revised since the last update.

(d) *Public meetings.* The owner or operator of a stationary source shall hold a public meeting to provide information required under § 68.42 as well as other relevant chemical hazard information, such as that described in paragraph (b), within 30 days of any accident subject to reporting under § 68.42.

(e) *Classified information.* The disclosure of information classified by the Department of Defense or other Federal agencies or contractors of such agencies shall be controlled by applicable laws, regulations, or executive orders concerning the release of classified information.

(f) *CBI.* An owner or operator asserting CBI for information required under this section shall provide a sanitized version to the public. Assertion of claims of CBI and substantiation of CBI claims shall be in the same manner as required in 40 CFR 68.151 and 68.152 for information contained in the RMP required under subpart G. As provided under 40 CFR 68.151(b)(3), an owner or operator of a stationary source may not claim five-year accident history information as CBI. As provided in 40 CFR 68.151(c)(2), an owner or operator of a stationary source asserting that a chemical name is CBI shall provide a generic category or class name as a substitute.

[FR Doc. 2016-05191 Filed 3-11-16; 8:45 am]

BILLING CODE 6560-50-P